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Disclaimer

Canon Computer Systems, Inc. has reviewed this manual thoroughly to make it an easy to use guide to your Canon BJ-30 Bubble Jet Printer. All statements, technical information, and recommendations in this manual and in any guides or related documents are believed reliable, but the accuracy and completeness thereof are not guaranteed or warranted, and they are not intended to be, nor should they be understood to be, representations or warranties concerning the products described.

Your printer and the software media included with your printer have been sold to you subject to the limited warranties set forth in the warranty card and license agreement enclosed with the respective product. All software is licensed AS IS, as described in the license agreement enclosed with the software diskette. Further, CCSI reserves the right to make changes in the specifications of the products described in this manual at any time without notice and without obligation to notify any person of such changes.

If you have any questions regarding your printer or the information in this manual, please call the Canon help desk at 1-800-423-2366 (U.S.A.) or 1-800-263-1121 (Canada).

Trademarks

Canon and BJ are registered trademarks of Canon Inc.

Other brand and product names may be trademarks or registered trademarks of their respective companies.

Using Your Documentation

The following documentation is supplied with the BJ-30 to help you efficiently use your new printer. Please read and use the manuals according to your requirements.

Quick Start Guide
This fold-out card summarizes the steps you follow to unpack and set up your printer. If you are an advanced user familiar with computers and printers, you can follow the steps illustrated on this card to start printing in minutes. It also includes quick reference material to help you use the printer on a daily basis.

User's Manual
This manual offers detailed information on how to set up and operate your printer. It includes initial setup procedures, printing operations, daily maintenance, troubleshooting, and specifications. Read this manual to set up your printer and master the basic printing operations.

This manual describes how to install the Canon Windows driver supplied with the printer, and how to use the versatile print options the driver supports. It also includes application notes and troubleshooting tips for using the printer in the Windows environment.

Refer to this manual when you have a problem or need to know the specifications of the printer.

Contents of This Manual

This manual describes how to set up and operate your Canon printer in several easy to read chapters. To get the most out of your bubble jet printer, read this manual carefully before using the BJ-30.

Chapter 1 Introduction
Introduces you to the features of the printer, lists the supplies and accessories you can purchase for the printer, and provides customer support information and phone numbers.

Chapter 2 Setting Up the Printer
Describes how to unpack and set up the printer, including how to install the BJ cartridge. It includes installing the Canon printer driver for Windows and briefly describes how to manage your printer's features.

Chapter 3 Using the Printer
Describes how to perform various printing operations, including how to turn the printer on and off, select paper and load it in the printer and travel with the printer.

Chapter 4 Using the Printer With Your Software
Describes the options you can select with the Windows driver and how to install printer drivers for MS-DOS.

Chapter 5 Using the Operator Panel
Explains how to control the printer from the operator panel for users printing from MS-DOS rather than Windows.

Chapter 6 Maintaining the Printer
Presents printer guidelines and BJ cartridge guidelines, and describes routine cleaning of the printer, how to clean the print head, how to replace a BJ cartridge and the ink tanks, and how to store the printer.

Chapter 7 Troubleshooting
Explains in detail what to do when problems occur with the printer. Refer to this section if you encounter a problem.

Chapter 8 Customizing the Printer
Describes the printer's FUNCTION settings and explains how you can customize the factory default settings of the printer by changing them.

Chapter 9 Installing and Using the Battery Pack
Describes how to install and use the optional battery pack available for the BJ-30.

Appendix A lists printer and portable kit specifications. **Appendix B** presents application notes for certain software packages.

The manual concludes with a **Glossary** and an **Index**.

Conventions

This *User's Manual* uses the following conventions to alert you to information that will help you operate the printer correctly and safely:



Notes provide advice or suggestions regarding the use of the printer.



Cautions alert you to operations that could cause damage to your hardware or software, or cause injury to yourself.

Distinctive typefaces identify the printer buttons you press, the lights on the operator panel, and any commands you enter at your computer.

- The buttons you press appear in this typeface: **POWER**.
- The options you select from the operator panel appear in this typeface: HQ.
- When you type something on your computer, it appears in this typeface: `DIR/P`.

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Canon

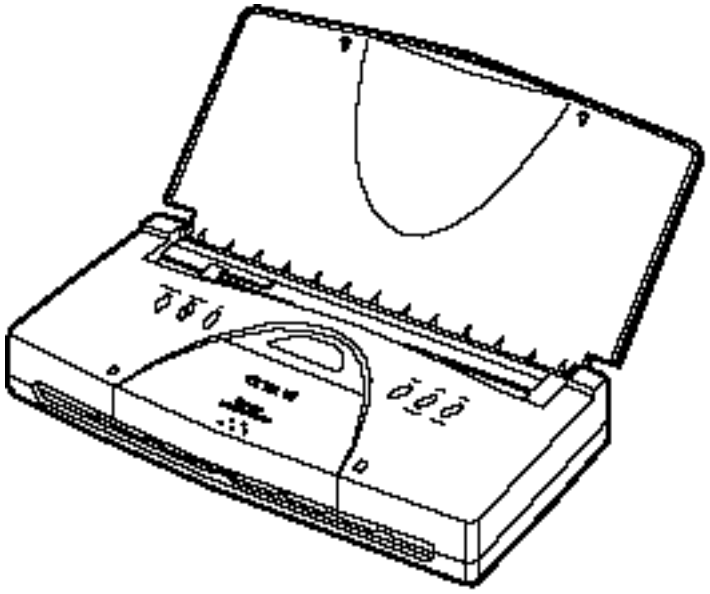
BJ-30
Bubble Jet Printer

User's Manual

Canon Computer Systems Help Desk:
1-800-423-2366 (USA)
1-800-263-1121 (Canada)

Chapter 1
Introduction

Congratulations on your purchase of the Canon BJ-30 Bubble Jet Printer. It offers exceptional print quality and trouble-free operation with the convenience of compact size and low cost. We appreciate your choosing this printer to meet your printing needs. We are certain you will be satisfied with its advanced bubble jet technology.



This chapter introduces you to the features of your new printer, lists the supplies and accessories you can purchase for the printer, and describes Canon's customer support procedures.

Features and Benefits

The BJ-30 Bubble Jet Printer produces high quality printing by incorporating many useful features.

Compact Design
The printer is very compact and lightweight (3.1 lb / 1.4 kg). It is perfect for use in your home where space is valuable, and its ultra-compact design makes the printer easily transportable. Using the optional battery pack, you can print documents without AC power. With a fully charged battery, the printer can print up to 200 pages.

Excellent Print Quality and Speed
The printer's high performance print head offers 720 (horizontal) by 360 (vertical) dots per inch (dpi) for high resolution printing. Your printer offers both vibrant print quality and exceptional print speed.

High Quality Ink
The new BJ (bubble jet) cartridge, BC-10, employs high quality, light-resistant ink. The ink dries quickly, looks great on plain paper, and is smudge-resistant.

Simple Maintenance
The BC-10 Black BJ cartridge contains both the replaceable print head and the black ink tank. You can replace the ink tank when it runs out of ink. In case the print head is damaged, you simply replace the entire cartridge.

Convenient Paper Handling
A built-in automatic sheet feeder holds up to 30 sheets of plain paper, 10 sheets of coated paper, transparencies or back print film, or 5 envelopes.

Software Compatibility
Three resident printer control modes enable the printer to work with a wide variety of software applications. Chapter 4, *Using the Printer With Your Software*, describes the printer control modes.

Versatile Graphics Print Functions
You can produce excellent graphics and high quality printing. The printer gives you the output quality of a laser printer and enables you to create attractive presentations even while on the road.

Smoothing
This feature refines your printout by polishing away the jagged edges and ragged stair-stepping curves of characters and graphics, and enables the printer to print both text and graphics at 720 by 360 dpi.

TrueType Fonts
The Canon TrueType™ Font Pack contains 20 scalable fonts to enhance your font capability and improve your print quality.

Quiet Printing
The nonimpact printing method offers quiet operation.

Supplies and Accessories

Your BJ-30 printer supports excellent and unique print media options that will allow you to produce dazzling, professional, and fun presentations. All of these print media are specially designed and manufactured to work with your printer so you can produce the finest output possible.

Canon has an extensive dealer network equipped to offer you supplies as you need them. To find a dealer near you, call the Canon referral service at **1-800-848-4123**.

If you want to purchase supplies directly from Canon, you may do so by calling Canon Accessories at **1-800-671-1090**. Supplies are offered at the manufacturers' suggested list price.

BJ Cartridge and Ink Tank

Canon offers the following BJ cartridge and ink tank for the BJ-30. (Note that the BJ cartridge contains the bubble jet print head and ink tank while the ink tank contains ink only.)

BC-10 Black BJ Cartridge
Incorporates a bubble jet print head and a replaceable black ink tank. One BC-10 cartridge comes with the printer.



BCI-10 Black Ink Tank
Purchase this ink tank from a dealer as the black ink runs out of the BC-10 Black BJ cartridge.



Print Media

Canon manufactures the following print media.

Canon Transparencies CF-102
These overhead clear transparencies (also called Over Head Projection or OHP film) are specially designed for your BJ-30. Other overhead clear transparencies may cause problems in your Canon printer by not feeding correctly into the printer or by not allowing the inks to dry properly. Canon overhead clear transparencies are specially designed and manufactured to avoid these problems. Use these clear transparencies to produce crisp and professional overhead presentations. Letter size is available.

Canon Back Print Film BF-102
This unique glossy paper allows you to print extremely high quality color output, such as required for photographic images and graphics. The back print film is capable of being viewed by rear illumination, such as a light box, or as regular prints without the benefit of a light box. Back print film is a mylar-based translucent sheet. When viewed by a light box, back print film provides a sharp, bright, and vivid presentation of special items, such as photographs, portraits, and graphics. It is also great for trade show displays and other special presentations when rear-illuminated. Letter size is available.

Portable Kit, Battery Pack, and Universal Adapter

To enhance the printer's portability, Canon offers the following items for supplying power to your printer.

Portable Kit NK-300

The portable kit includes one NiMH battery pack NB-300 and an attachment unit, which allow you to operate the printer when AC power is not available. When attached to the printer, this nickel-metal hydride battery pack charges when the printer is not operating. The battery pack fully charges in about eight hours. When fully charged, it enables you to continuously print about 200 pages.

NiMH Battery Pack NB-300

You can purchase additional battery packs to use with the Canon Portable Kit NK-300.

Universal Adapter AD-350U

The Universal Adapter supplies power to the printer from any power source with an appropriate power cord. With the Universal Adapter, you can use the BJ-30 in various countries where AC power differs from the U.S. standard.

Related Publication

Programmer's Manual
The information in the *BJ-30 Programmer's Manual* is intended for the software designer, the advanced programmer, and the operator who can use a programming language to send commands to the printer. This manual explains the printer commands for Canon BJ mode and Epson LQ mode.

To obtain this manual, call Canon Accessories at **1-800-671-1090**.

Customer Support

Help desk
Canon provides customer support and service for all Canon printer products. If you have any questions regarding your new printer, call the Canon Computer Systems help desk at **1-800-423-2366**. Help is available Monday through Friday from 8 A.M. to 11 P.M. Eastern Standard Time (EST) and on Saturday from 11 A.M. to 6 P.M. EST. The help desk is closed on Sundays and holidays.

If you seem to have an operational problem, try to solve it by referring to the information in Chapter 7, *Troubleshooting*, or by using your Visual Guide. If you cannot quickly resume normal operation, contact Canon's experienced support personnel at the help desk number above.

Fax number
You can send comments, suggestions, and technical questions to Canon via facsimile. The number for this service is **1-714-438-3317**, which accesses a G3 fax machine. Be sure to state your question and provide a phone number or fax number for a response.

Fax retrieval system
Canon also provides a 24-hour, toll-free fax retrieval system. You can use this service to get helpful documents faxed directly to your fax machine. These documents contain useful information to assist you in the operation of your Canon printer. To access this service, call **1-800-526-4345**.

Bulletin board services
Canon also provides a bulletin board service (BBS), which is useful for obtaining newly developed, third-party drivers. Call **1-714-438-3325**. The protocol for the BBS is up to 14,400 bps, eight data bits, one stop bit, and no parity.

If you use CompuServe®, you can access the Canon Peripherals Forum. This allows you to talk with other users, send a message to Canon, or download printer drivers. Just type GO CANON at any CompuServe prompt.

Canada
Customer support for Canadian residents is available 24 hours a day (seven days a week) at **1-800-263-1121**.

In other countries, please contact your Canon dealer.

Supplies
To purchase supplies, call Canon Accessories at **1-800-671-1090** from 9 A.M. to 7 P.M. EST.

Servicing the Printer

The Canon BJ-30 Bubble Jet Printer is designed with the latest technology to provide trouble-free operation. The warranty card that comes with your printer describes Canon's limited two-year warranty for its Bubble Jet printers. Be sure to read the warranty information to find out about the different service options available to you.

Save the warranty card and keep your sales receipt for proof of purchase. In the event your printer needs servicing, you will need your proof of purchase to obtain warranty service.

If you seem to have a problem, try to solve it by referring to the information in Chapter 7, *Troubleshooting*. If you cannot solve the problem, contact Canon's support personnel at the help desk.

If you feel your BJ-30 Bubble Jet Printer needs servicing, call the Canon help desk to locate the Canon Authorized Service Facility (ASF) nearest you or to find out about the exclusive Canon *InstantExchange* limited warranty service.

At the time of this manual's writing, Canon does not offer an extended warranty program beyond the two-year warranty; however, some authorized Canon dealers may offer such programs for a fee. If you are interested in an extended warranty, contact your Canon Authorized Service Facility to see if it offers such a service.

Chapter 2
Setting Up the Printer

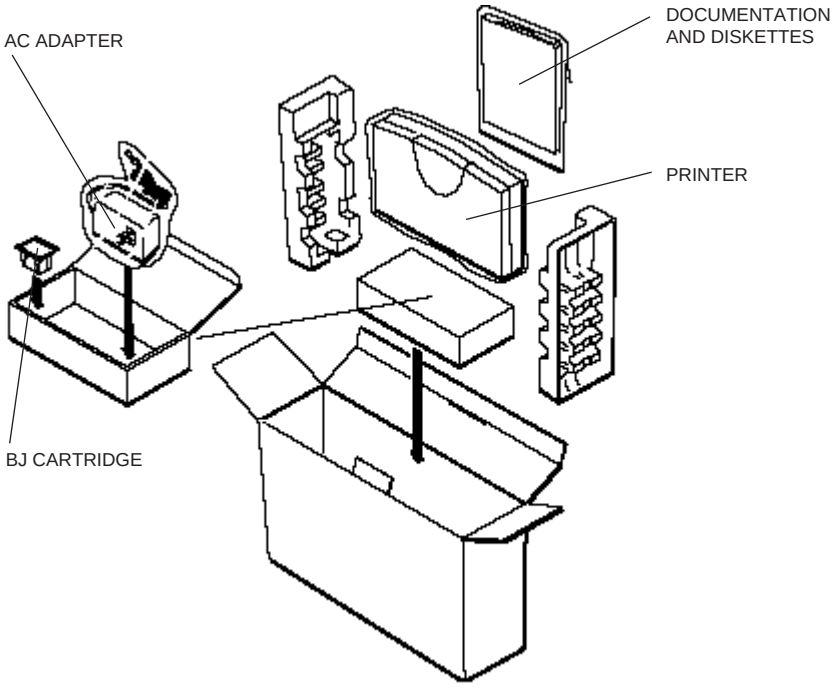
This chapter describes how to unpack the printer, examines the printer's components, and explains how to attach the AC adapter and interface cable and how to install the BJ cartridge. It also describes how to load a stack of paper and print a test pattern followed by installing a printer driver and managing your printer's features.

If you already set up your printer using the *Quick Start Guide*, you may want to look through this chapter to find any additional information it provides.

Unpacking Your Printer

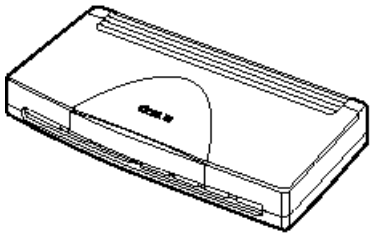
Follow these steps to unpack the printer:

1. Carefully remove all items from the box.

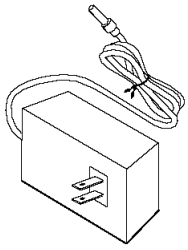


2. Check to see that you have the following items.

❑ Hardware:



BJ-30 PRINTER



AC ADAPTER



BJ CARTRIDGE

❑ Documentation and Diskettes:

User's Manual (this manual)
Quick Start Guide
Product Warranty Card
Registration Card
Canon Windows Driver diskette:
(one diskette in an envelope)
TrueType Font Pack (diskette in envelope)

If your printer was damaged in shipping, or if any items are missing, notify your dealer immediately.



Note

❑ In addition to the items shipped with your printer, you need a Centronics®-compatible parallel interface cable (no longer than six feet), which you can purchase from your dealer.

❑ Be sure to fill out your Registration card and send it to Canon Computer Systems, Inc.

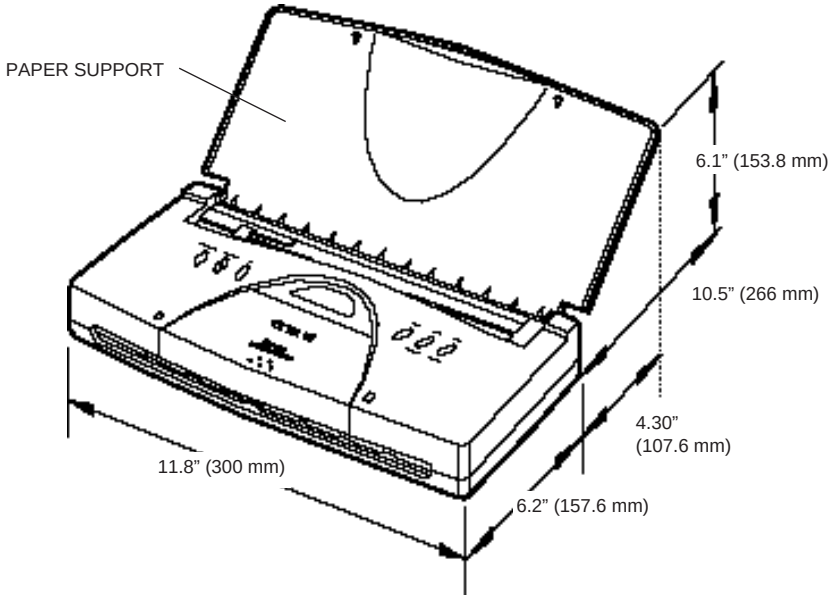
❑ Save your sales receipt for proof of purchase in case your printer requires warranty service.

Selecting a Location for Your Printer

Whether at home, in the office, or traveling, you need to find a comfortable, convenient and safe location for the printer. Follow these guidelines:

- ❏ Choose a flat, sturdy surface with enough space for the paper to flow freely into and out of the printer. **Angled print stands may cause quality and reliability problems**.

- ❏ Open the paper support to ensure enough space is available for proper operation. The printer requires this much space:



- ❏ Place the printer where the temperature is stable and set for human comfort. Avoid areas of excessive heat or humidity as well as direct sunlight.

- ❏ Do not leave the printer in a closed vehicle; this may expose the printer to extremely high temperatures.

- ❏ Do not install the printer near devices that contain magnets or generate magnetic fields (such as loudspeakers or base units of cordless telephones). These devices can erase information on the printer’s intelligent circuits.

- ❏ Do not subject the printer to strong physical shock or vibrations.

- ❏ Keep the printer clean. Dust accumulation may prevent the printer from functioning properly.

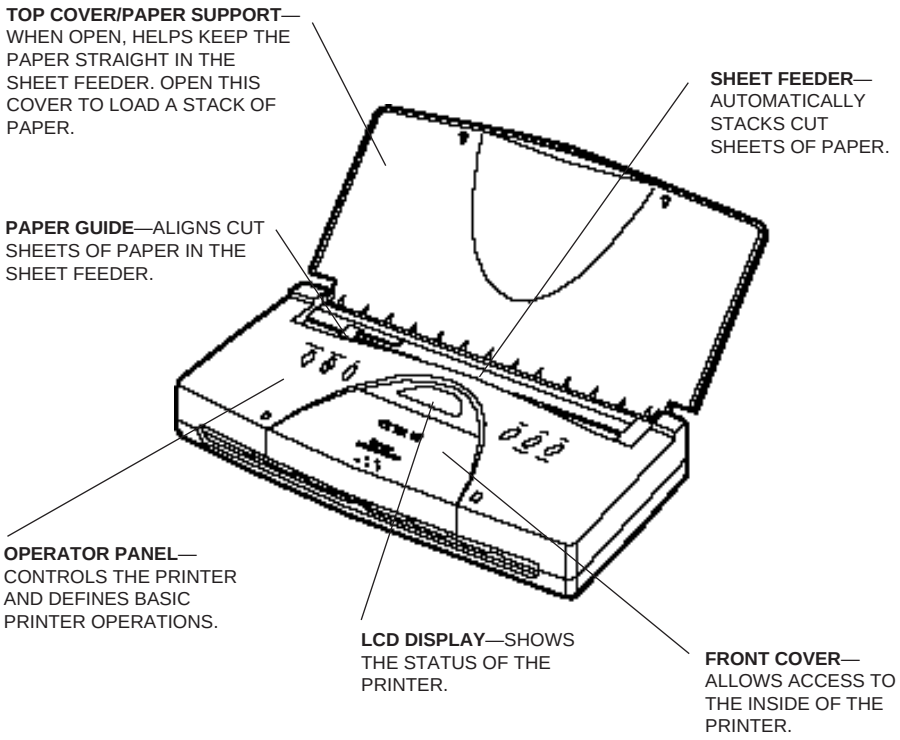
- ❏ Do not place objects on top of the printer.

- ❏ To avoid damage, do not lift the printer by holding the paper support.

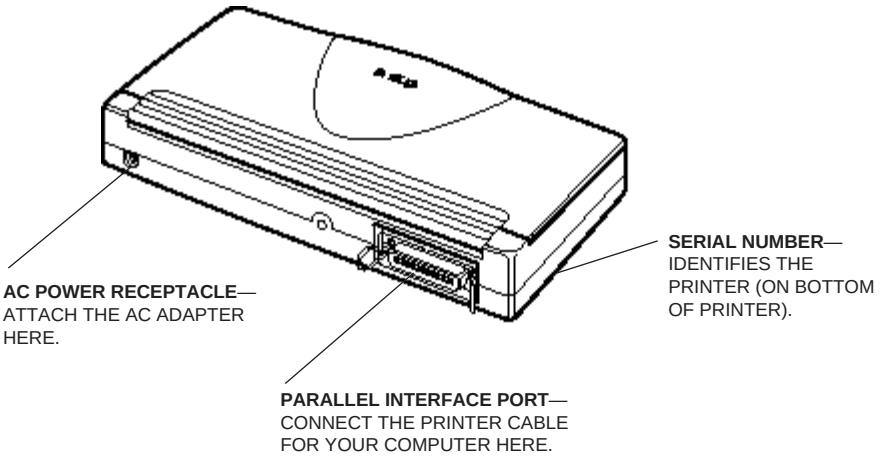
Examining the Printer

Before setting up the printer, it's a good idea to familiarize yourself with its parts and understand their functions.

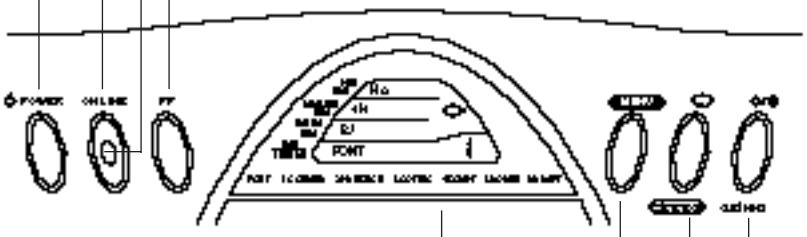
From the Front



From the Back



Operator Panel



POWER BUTTON—TURNS THE PRINTER'S POWER ON OR OFF.

ON LINE BUTTON—SETS THE PRINTER ON-LINE OR OFF-LINE.

ON LINE LIGHT—LIGHTS WHILE THE PRINTER IS ON-LINE, INDICATING THE PRINTER IS READY FOR PRINTING.

FF BUTTON—FORCES A FORM FEED, WHICH EJECTS THE CURRENT PAGE.

MENU BUTTON—SELECTS MENU MODE OR STARTS A TEST PATTERN.

or **CARTRIDGE BUTTON**—SELECTS A MENU SETTING OR MOVES THE BJ CARTRIDGE TO THE CENTER OF THE PRINTER.

O/● or **CLEANING BUTTON**—TURNS THE FUNCTION SETTING ON OR OFF OR STARTS THE PRINT HEAD CLEANING PROCESS.

DISPLAY—INDICATES THE CURRENT PRINTER SETTINGS.

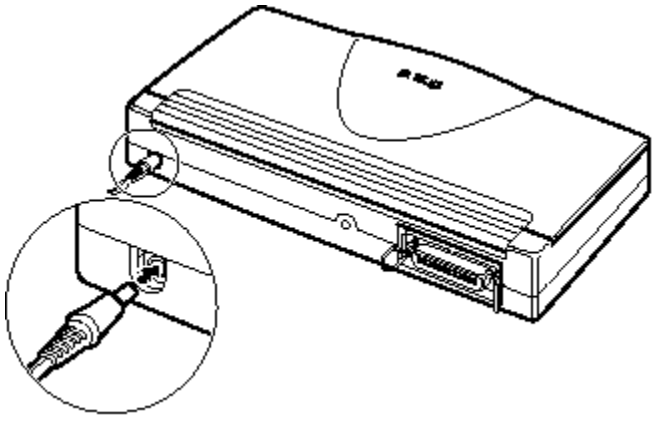
Attaching the AC Adapter

Caution

- ❏ Use the AC adapter that is appropriate for the voltage and frequency of your power supply: AC 120 V, 60 Hz, 0.5 A. This is standard for an electrical outlet in the United States or Canada.
- ❏ Use only the AC adapter that came with the printer. Use of any other adapter may damage the printer.
- ❏ If you smell a peculiar odor or see smoke, unplug the AC adapter immediately.
- ❏ Do not place anything in front of your wall outlet that may obstruct your access to it or put pressure on the AC adapter.
- ❏ When unplugging the AC adapter, always remove it by holding onto the adapter unit and not the cord.
- ❏ Use the AC adapter indoors only.
- ❏ Always plug the AC adapter into the printer before you plug it into an electrical outlet.
- ❏ Always unplug the AC adapter from the electrical outlet before disconnecting it from the printer.

To attach the AC adapter, follow the steps below.

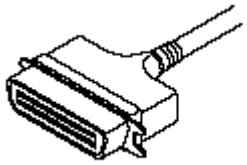
1. **Attach the connector end of the AC adapter into the AC power receptacle on the back of the printer.**



2. **Plug the AC adapter into an AC outlet.**

Connecting Your Printer to the Computer

Your printer has an 8-bit parallel interface port, which allows you to use it with IBM PCs and compatible computers. You need to purchase a Centronics-compatible, parallel interface cable from your dealer. Ask your dealer for assistance if you need help selecting the right cable.

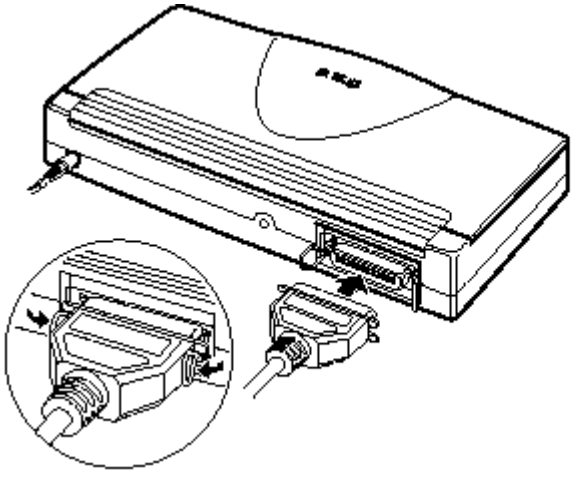


Note

For reliable data communications between your computer and the printer, use a short cable, six feet or less in length.

To connect the printer to the host computer, follow the steps below:

1. **Make sure both the printer and the computer are turned off.**
2. **Connect the parallel cable.**
   - ❑ Align the cable connector with the printer's interface port so the shapes match.
   - ❑ Gently press the cable connector into the port.
   - ❑ Secure the cable connector by snapping the two wire clips (located on the printer) into the cable connector.



3. **Connect the other end of the interface cable to the parallel interface port on your computer.**

Installing the BJ Cartridge

Now you are ready to install the BJ cartridge.

Open the BJ cartridge package only when you are ready to install the cartridge.

Note

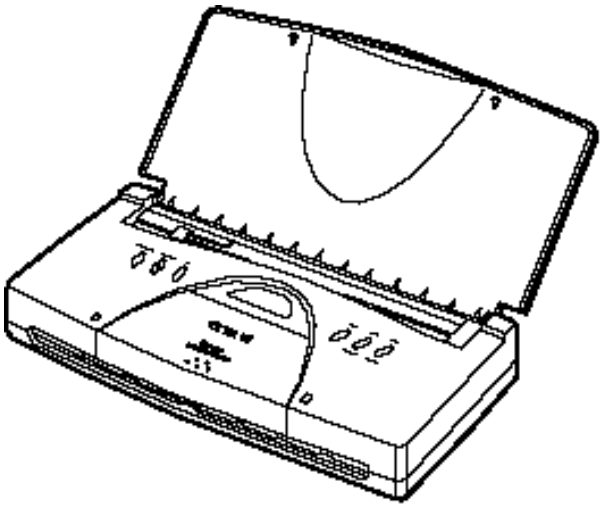
Canon makes numerous BJ cartridges; the BC-10 is designed specially for the BJ-30 Bubble Jet Printer and is the only one you should use.

To install the BJ cartridge, follow the steps below.

1. **Make sure the parallel interface cable and the AC adapter are attached.**

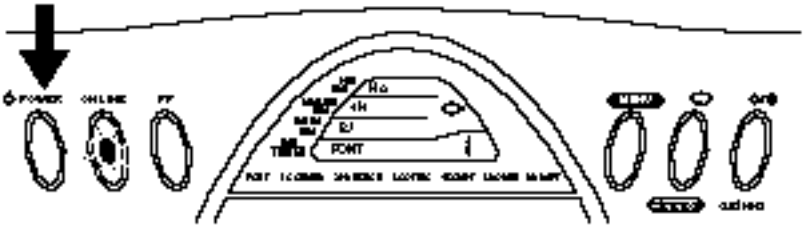
2. **Open the paper support.**

   ❑ Lift the cover to the open position.



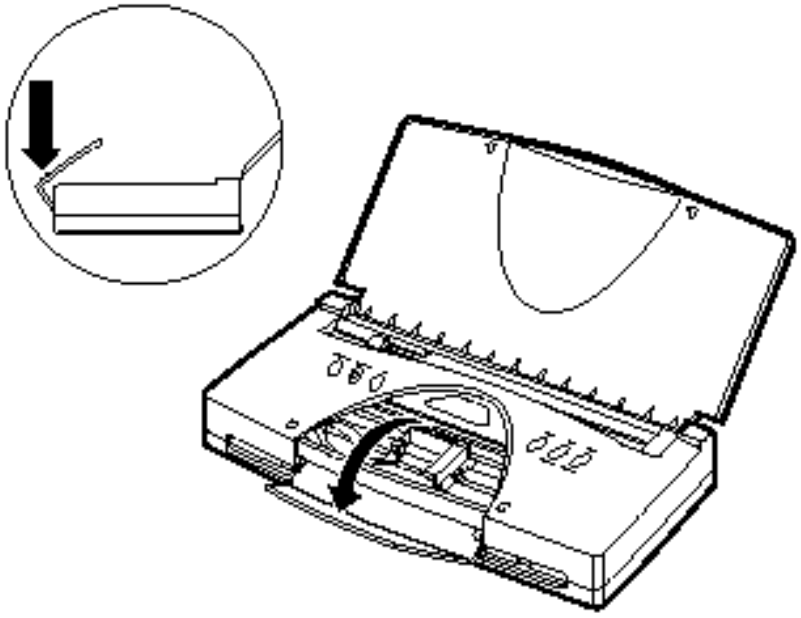
3. Press the POWER button.

- ❏ The current settings appear in the display.
- ❏ When you turn on the printer for the first time, the BJ cartridge holder moves to the center of the printer so you can install the BJ cartridge. The ON LINE light blinks.



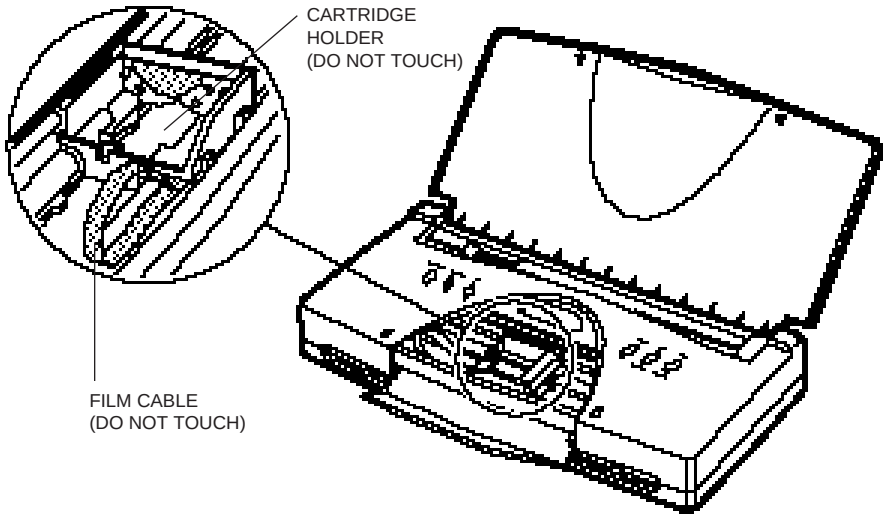
4. Open the front cover.

- ❏ Gently press on the raised dots on the front cover.
- ❏ Then gently pull the cover to the open position.



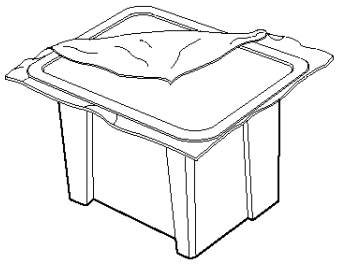
5. Make sure the cartridge holder is in the center of the printer.

- ❏ If the cartridge holder is not in the center, press and hold the **CARTRIDGE** button.
- ❏ Do not touch the interior of the cartridge holder or the film cable when installing the BJ cartridge.



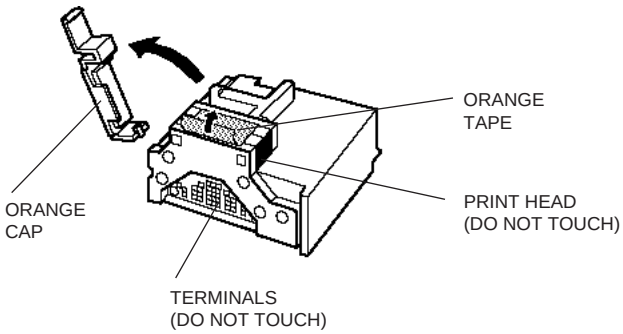
6. Unpack the BJ cartridge.

- ❏ Peel off the protective foil.



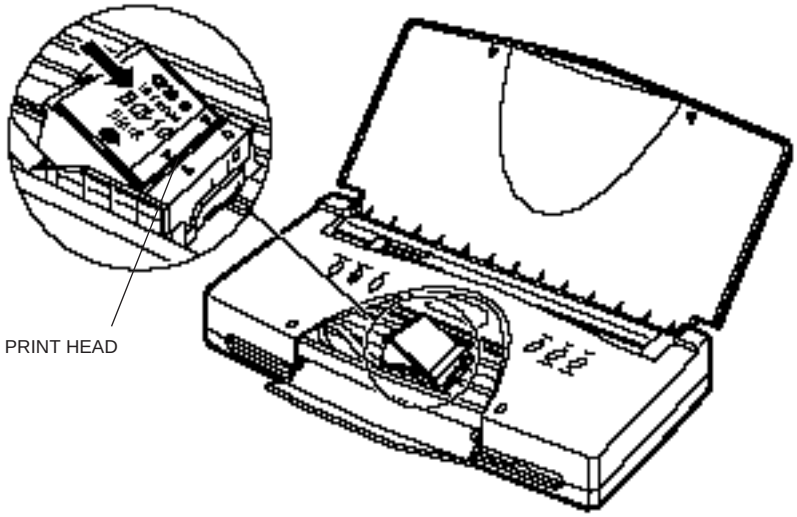
7. Remove the protective material from the BJ cartridge.

- ❑ Lift off the orange cap from the print head, and then remove the orange tape.
- ❑ Do not touch the print head area of the BJ cartridge (underneath the orange tape).
- ❑ Do not touch the terminals on the BJ cartridge.

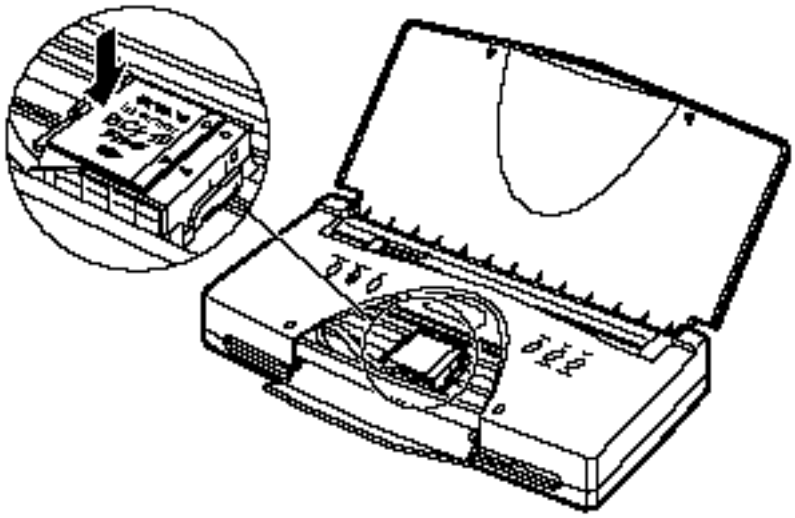


8. Insert the BJ cartridge.

- ❑ Gently place the BJ cartridge into the cartridge holder.
- ❑ Insert the print head into the cartridge holder first.



9. Press down on the left side of the BJ cartridge.

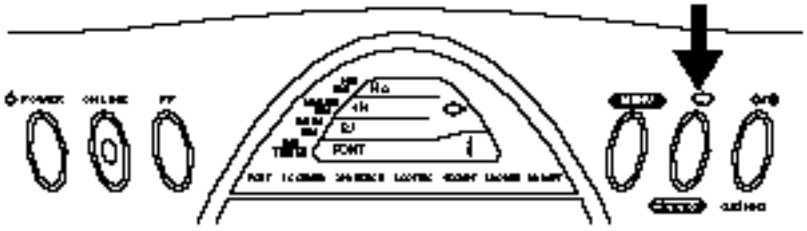


10. Close the front cover.

❏ Lift the cover up into place.

11. Press the CARTRIDGE button.

❏ The cartridge holder moves to the right side.



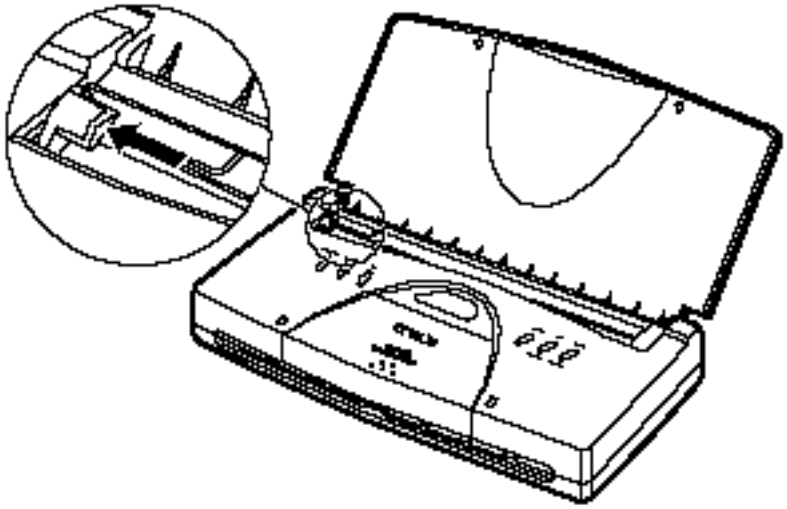
Immediately after installing the BJ cartridge, be sure to press the **CARTRIDGE** button (step 11 above) to return the cartridge holder to its *home position* at the far right side. In the home position, the printer caps each print head nozzle. This keeps the print head and BJ cartridge from drying out.

Loading a Stack of Paper

These steps show how to load a stack of plain paper and test your printer. In the next chapter, you'll learn how to print on different types of print media.

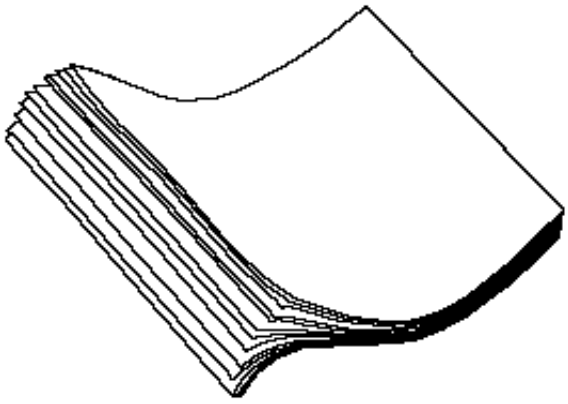
You can stack about 30 sheets of plain paper in the sheet feeder.

1. **Make sure the paper support is open and the paper guide is in the leftmost position.**



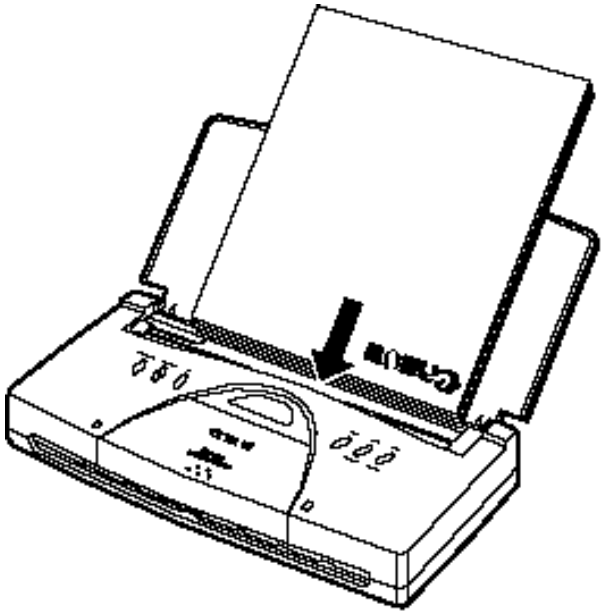
2. **Fan the paper.**

   - ❏ For best results, fan the paper before loading it.
   - ❏ Always fan a stack of paper along the edge that will feed into the printer first.



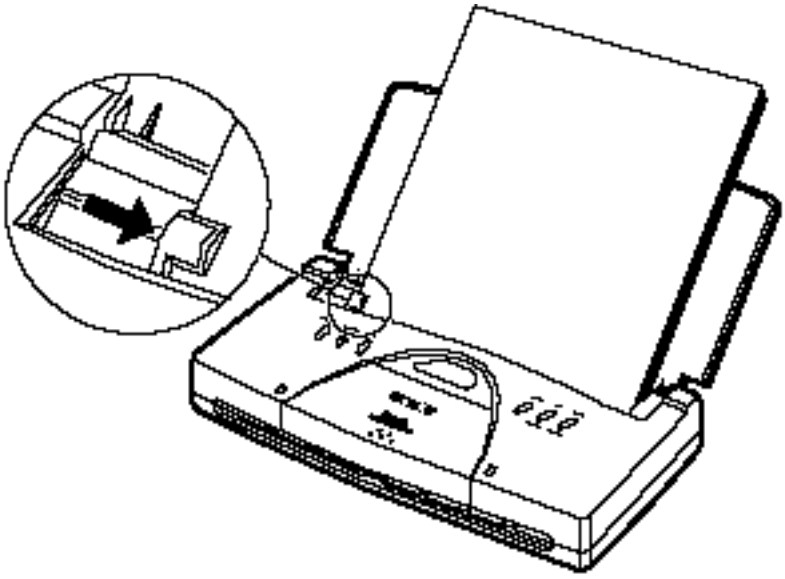
3. Slide the stack of paper into the sheet feeder until it stops.

❑ Align the paper with the right edge of the sheet feeder.



4. Secure the stack with the paper guide.

❑ Slide the paper guide against the stack of paper.

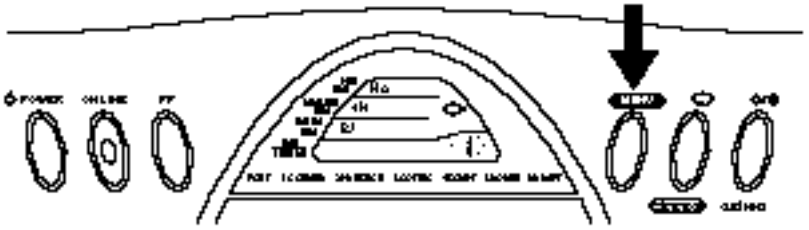


Printing a Test Pattern

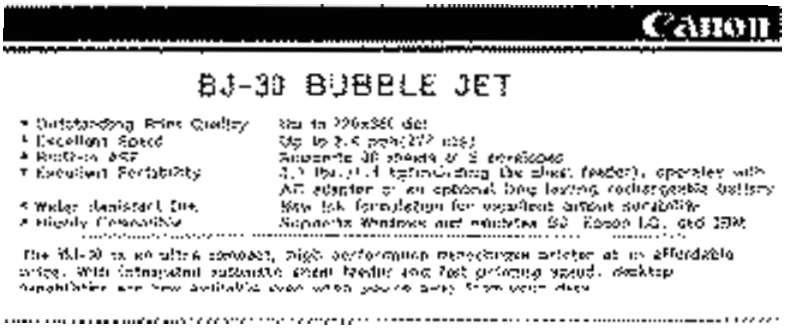
To check that you have properly set up the printer, you can print one of the printer's test patterns. The test patterns are described in detail in Chapter 3, *Using the Printer*. For now, print the Demo pattern.

1. **Make sure that the sheet feeder contains a stack of paper.**
2. **Make sure that the printer is turned on.**
3. **Press and hold down the MENU button until the printer beeps twice.**

   ❑ The word FONT disappears and the number shown on the display starts blinking.



4. **Press the ⇨ button five times until the number 6 appears on the display.**
5. **Press the MENU button to start the Demo pattern.**



After printing the Demo pattern, the printer stays on-line.

Note

If lines are missing in the printed text or if there is no ink on the paper, check that the BJ cartridge is installed correctly (as described previously in this chapter). You may also need to clean the print head; see *Cleaning the Print Head* on page 79 for instructions.

Installing a Printer Driver

Before you can print documents from your software applications, you must install the appropriate printer driver on your computer. The printer driver takes the information from your application program and translates it into a language the printer can understand.

If you are using Microsoft Windows 3.1 applications, install the BJ-30 printer driver for Windows, as described in the next section.

If you are using MS-DOS applications, you must install a printer driver for each MS-DOS software application that you intend to use with the printer. See Chapter 4, *Using the Printer With Your Software*, for details.

Installing the Windows Printer Driver

Before installing the Canon Windows driver, make sure your computer system has the following minimum configuration:

- ❑ 386 personal computer
- ❑ 4 MB random access memory (RAM)
- ❑ 2.4 MB of available disk space
- ❑ 256-color, VGA color graphics monitor with a minimum resolution of 640 x 480 dots per inch (dpi)
- ❑ MS-DOS 5.0 or later
- ❑ Windows 3.1

Follow these steps to install the Canon BJ-30 printer driver for Windows 3.1:

1. Turn on your computer.
2. Make a backup copy of the Windows Driver diskette.
3. If you are not already in the Windows environment, type `WIN` and press **Enter**.

4. Choose Control Panel from the Main Group window in the Program Manager.

5. Open the Printers icon. The Printers dialog box appears.



Your screen may show printers in the Installed Printers box. This means other printers have been installed for your system; this should not cause any problems.

6. Choose the Add button to display the List of Printers box.

7. Select Install Unlisted or Updated Printer from the beginning of the List of Printers, and then choose Install. A dialog box appears instructing you to insert the diskette that contains the printer driver.

8. Insert the diskette containing the Canon BJ-30 printer driver for Windows into disk drive A and select OK. (If you are not using drive A, you can enter the pathname that identifies the drive you are using or use Browse to locate the drive.)

9. Choose Canon BJ-30 from the List of Printers and select OK. The Control Panel installs the files for the BJ-30 printer driver on your hard disk. The Printers dialog box appears with the Canon BJ-30 listed in the Installed Printers box.

10. If you need to change the port designation, make sure the Canon BJ-30 is selected in the Installed Printers box. Then select the Connect button to display the Connect dialog box.

11. Choose your port and select OK.

12. If you want to use the BJ-30 for all of your work, make sure Canon BJ-30 is highlighted and select the Set As Default Printer button from the Printers dialog box.

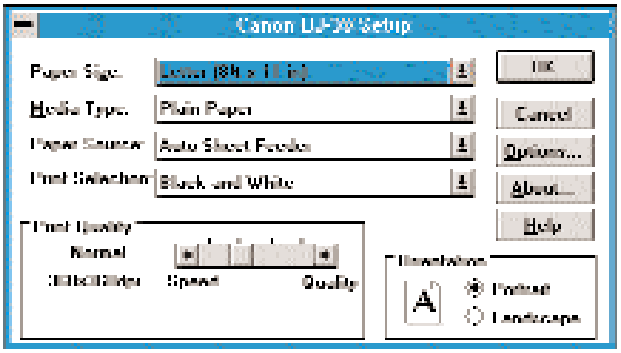
13. Select the Close button to complete the installation of the Canon BJ-30 printer driver for Windows.



For faster printing operations in Windows, do not use the Windows Print Manager.

Using the BJ-30 Windows Driver

When you first install the Canon BJ-30 driver for Windows, it's a good idea to run the Setup program and select the printer settings that you will normally use. Later, from within each of your software applications, you can select printer settings that are unique to the current print job.



This screen shows the default settings for the BJ-30. See Chapter 4, *Using the Printer With Your Software*, for details on selecting other printer settings for the BJ-30 printer driver for Windows.

Installing the Canon TrueType Fonts for Microsoft Windows 3.1

Install the TrueType Font Pack to add 20 extra scalable fonts to your font selection. Follow these steps:

1. Make sure your computer is turned on.
2. Start Windows 3.1 by typing `WIN` and pressing **Enter** at the MS-DOS prompt.
3. Choose the Control Panel from the Main icon group window in the Program Manager.
4. Open the Fonts icon. The Fonts dialog box appears.
5. Choose the Add button to display the Add Fonts dialog box.
6. Insert the diskette containing the Canon TrueType Fonts into the diskette drive.

7. In the Drives scroll menu, select the appropriate drive where the diskette is located. The fonts appear in the List of Fonts box.

8. Select the fonts by clicking on the fonts you want to add. To select all the fonts, click the Select All button.

9. Click on OK. The Fonts dialog box reappears with the installed fonts listed in the Installed Fonts menu.

10. To ensure the fonts appear in your application, click the TrueType button. The TrueType dialog box appears.

11. Make sure an X appears in the Enable TrueType Fonts box. Click on OK to exit the TrueType dialog box.

12. Click on Close to exit the Fonts dialog box.

Your installation is now complete.

If you would like to remove the installed fonts, please refer to the instructions that came with your TrueType fonts.

Printing From Windows

After installing the BJ-30 printer driver for Windows, print a simple test from Windows to make sure the printer is correctly set up. Follow these steps:

1. From the Program Manager's top menu bar, select Window.

2. From the drop-down list, choose Accessories.

3. Double-click on the Write icon.

4. Select File from the menu bar.

5. Choose Open.

6. Double-click on the PRINTERS.WRI file.

7. From the top menu bar, select File.

8. Choose Print.

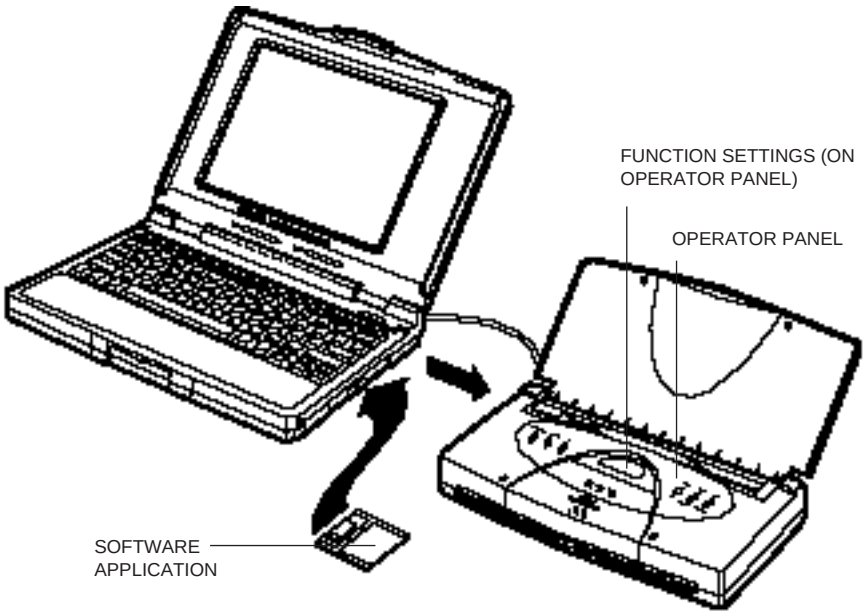
9. In the Print Range box, make sure the Pages options is set to From 1 To 1.

10. Click on OK.

This prints the first page of the PRINTERS.WRI file. Now you are ready to start using your new printer in the Windows environment.

Managing Your Printer's Features

You select and control the printing features of the BJ-30 printer with your software application, with the printer's operator panel, or with the printer's FUNCTION settings. Each method allows you to select some or all of the printing features that control the appearance of your printed documents.



Software Applications

Your software applications, when used with the appropriate printer driver, can control all aspects of the printer's features. This is the easiest method for controlling the look of your printed documents, including typeface style and size and placement of text, graphics, and margins. Normally, settings made with your software applications override the settings made through the operator panel or the FUNCTION settings.

See Chapter 4, *Using the Printer With Your Software*, for details on setting up your software applications for use with the BJ-30.

Operator Panel Buttons

The buttons on the operator panel allow you to turn the printer on and off, set the printer on-line and off-line, and pause a print operation. They also allow you to select basic printing modes, feed paper, clean the print head, and start a printer self test.

See Chapter 5, *Using the Operator Panel*, for details.

FUNCTION Settings

The printer's FUNCTION settings allow you to set the default printer configuration settings, such as horizontal print position, text lines per page, character sets, and so on. See Chapter 8, *Customizing the Printer*, for details.

Line Printers Versus Page Printers

Line Printers
Your Canon BJ-30 Bubble Jet Printer is an example of a line printer. Line printers, sometimes called band printers, process and print information one line (band) at a time. The information sent from the computer to the printer indicates exactly how each line should look and where each dot is positioned. This information is similar to a bitmapped graphic that specifies positions of individual dots of ink.

Page Printers
Page printers process and print information one page at a time. The information sent from the computer to the printer is sometimes in simple ASCII code, or more often, in a page description language. This information is a set of instructions that the printer must interpret to determine where it should position each dot. Some common page description languages include PostScript, CaPSL, and HP PCL.

Line Printers and Processing

With line printers almost all of the processing burden falls on the computer. The printer needs to do very little additional processing of the information it receives from the computer—it simply executes the instructions it receives. This means a line printer needs very little processing power and memory.

Because most of the processing takes place on the computer, the speed of the computer's processor (386, 486, Pentium) and the amount of random access memory (RAM) on your computer have a significant influence on printing speed.

The faster the processor, and the more RAM you have, the faster you can print on your BJ-30 Bubble Jet Printer.

Page Printers and Processing

With page printers, the computer and the printer share the processing load. The computer translates information from the application into the appropriate page description language and sends this to the printer. The printer processes this code into specific printing instructions on where to put each dot on the page. This means that the printer itself must have a certain amount of processing power and memory to handle the instructions it receives from the computer.

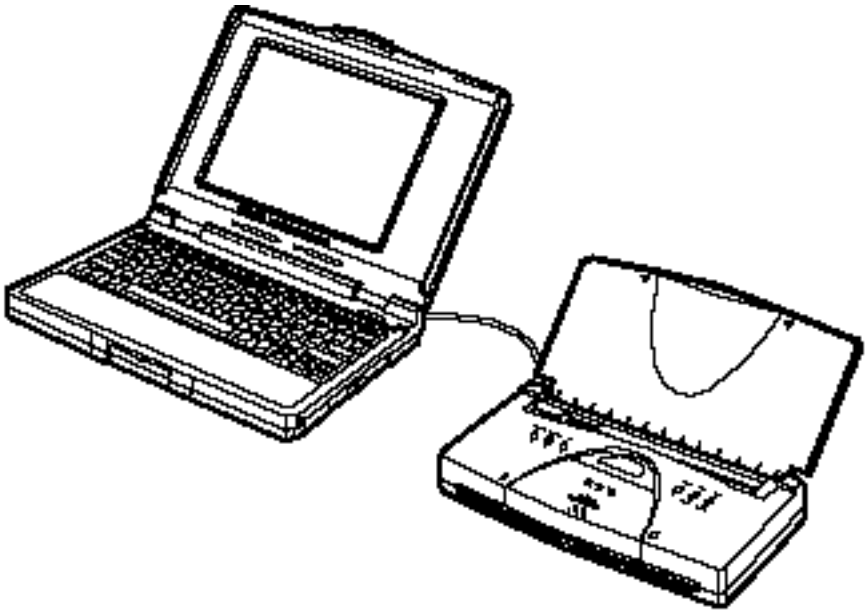
Because processing takes place on both the computer and the printer, the speed of laser printing depends on the processor speed and RAM available on both the computer and the printer.

Congratulations

You are now ready to start using your new printer. See Chapter 3, *Using the Printer*, for instructions on how to perform various printing operations.

Chapter 3
Using the Printer

This chapter describes how to use the printer for all your printing operations. It describes how to turn the printer on and off, how to select and load paper, how to print on legal-size paper and in landscape orientation, and how to print the test patterns. It also describes how to travel with the printer.



Turning the Printer On and Off

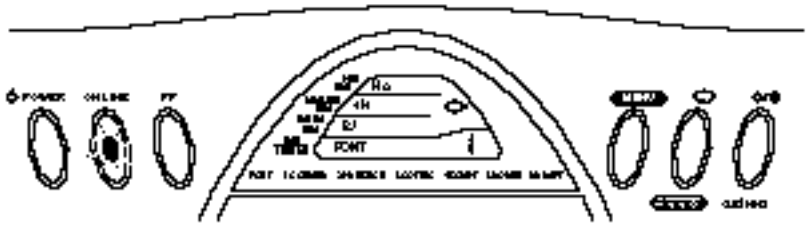
Follow these steps to turn on the power:

1. **Make sure the AC adapter is connected or the optional battery pack installed.**

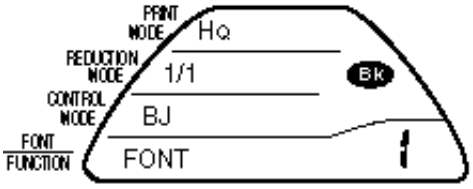
   ❑ See Chapter 9, *Installing and Using the Battery Pack*, for details on the optional battery pack.

2. Press the POWER button.

- ❑ The ON LINE light blinks while the printer initializes itself. When the printer is ready to receive data, the ON LINE light stays on.



When the printer is on and on-line, the LCD displays the current printer settings. For example:



If you turn on the printer and the BJ cartridge is not installed, the printer automatically moves the cartridge holder to the center to allow you to install the BJ cartridge.

To turn off the printer, press the **POWER** button again. All the indicators on the display go out.

When you turn off the printer, the cartridge holder moves to the home position on the right and caps the print head and BJ cartridge. This keeps the BJ cartridge from drying out. The print head nozzles will not be properly capped and the print head unit may clog or be permanently damaged in the following cases:

- ❑ If you unplug the AC adapter while the printer is printing.
- ❑ If you turn off a power strip to which the AC adapter is attached while the printer is printing.
- ❑ If you move the cartridge holder from the home position.

Selecting Paper Types

One of the most important things you can do to assure the best possible print quality from your bubble jet printer is to select the correct paper. Your printer produces letter quality output on most plain bond papers, including cotton bond and photocopying papers; it does not require special ink jet papers. However, the print quality varies with different paper types. Be sure to test a type of paper before you purchase a large quantity.

Plain Papers
The printer supports paper sizes of letter, legal, A4 and in portrait orientation. You can use regular copier paper, cotton bond papers, and typical letterhead. Always use paper without curls, folds, staples, or damaged edges.

Transparencies
Canon Transparencies (CF-102) are recommended. They are available in letter size.

Back Print Film
Canon Back Print Film (BF-102) has been specially developed for color printing with Canon printers. The film is designed to deliver brilliant, high-intensity images suitable for business presentations, design work, or professional reports. Back print film is printed on the back side (the nonglossy side of the film) in a mirror image and, for best results, is viewed from the front or glossy side using a backlighting device. For more details, ask a Canon Authorized Dealer for information or refer to the manual supplied with the film.



If you are printing from an application outside Windows, your software application or printer driver must support mirror image printing in order to use back print film.

When selecting or loading paper, keep these guidelines in mind:

- ❏ Attempting to print on damp, curled, wrinkled, or torn paper can cause paper jams and poor print quality.
- ❏ Use cut-sheet paper only. You cannot use multipart paper.
- ❏ If the print density of your page is very high, light paper stock may curl slightly due to the large amount of ink. If you need to print heavy graphics, try printing on a heavier stock.
- ❏ Do not use thicker paper than meets the specifications for this printer. Printing with a paper that is thick enough to come in contact with the print head nozzles may damage the print head.

For complete paper specifications, see Appendix A, *Specifications*.

Loading Paper

You can stack paper in the sheet feeder to load it automatically, or you can manually feed one sheet at a time. The path that the paper travels through the printer is the same for automatic and manual feeding.

You can place approximately 30 sheets of plain paper (20 lb or 75 g/m^2) in the sheet feeder at a time.

You can stack approximately 10 sheets of transparencies or back print film in the sheet feeder; these are special papers that you may want to use for certain presentations. However, these special media may not advance correctly under unusual environmental conditions (such as extreme temperatures and humidity). If you have trouble with special papers becoming skewed or feeding multiple sheets, do not stack them in the sheet feeder. Load them one sheet at a time.

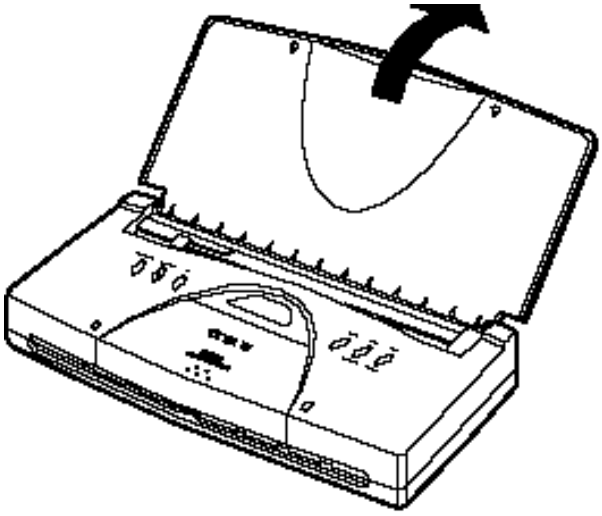


Place at least one sheet of plain paper in back of a stack of transparencies or back print film.

To automatically feed paper, follow these steps:

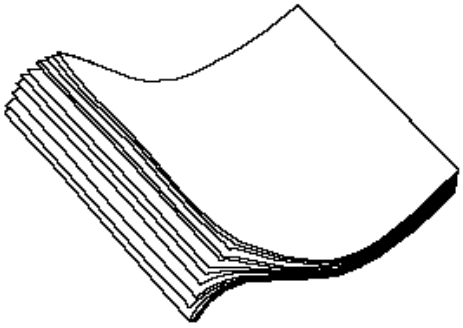
1. **Make sure the paper support is open.**

   ❑ The paper support helps keep paper straight and limits the possibility of jams.



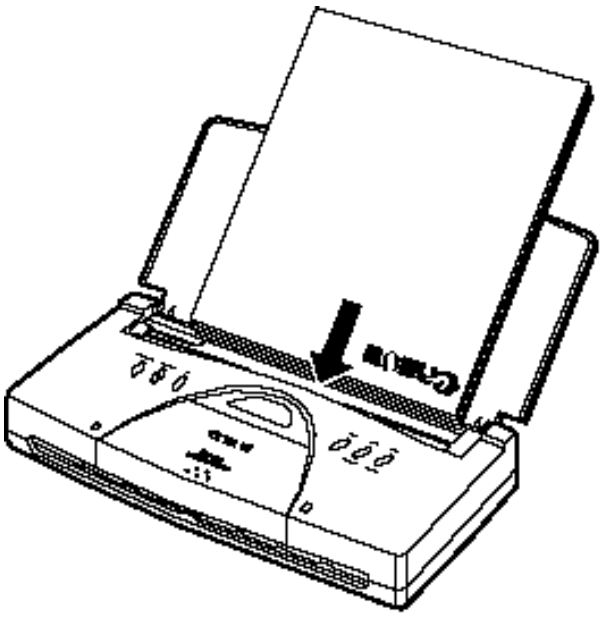
2. Fan the paper.

- ❏ For best results, fan the paper before loading it.
- ❏ Always fan a stack of paper along the edge that will feed into the printer first.



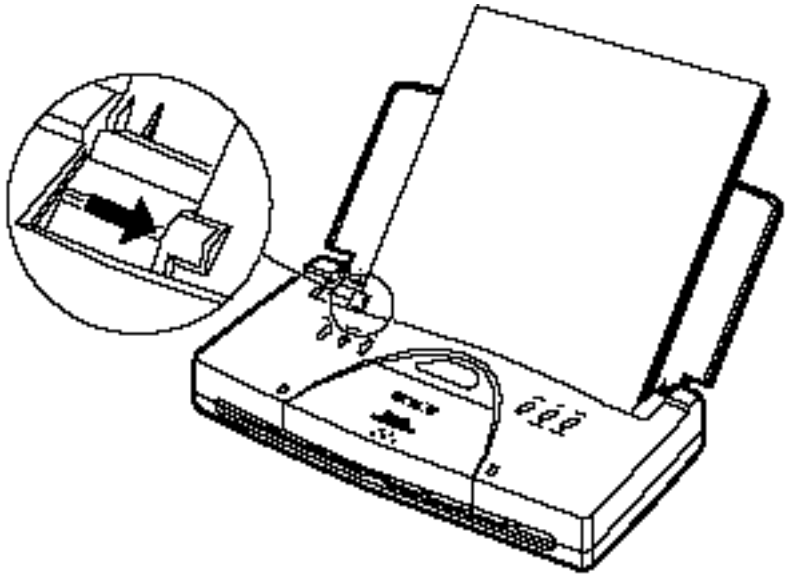
3. Slide the stack of paper into the sheet feeder until it stops.

- ❏ Align the edge of the paper with the right edge of the sheet feeder.
- ❏ Do not force the paper into the printer.
- ❏ Insert the paper so that the side you want to print on is facing you. If you are using a preprinted stock, such as letterhead, insert the top of the paper into the sheet feeder first.
- ❏ Make sure the stack of paper does not exceed the paper guide.



4. Adjust the paper guide to the stack of paper.

- ❏ This keeps the paper feeding straight into the printer and reduces skewing.
- ❏ Be sure there is no gap between the paper guide and the edge of the stack of paper.



5. Make sure the printer is turned on and on-line and start your print operation.

- ❏ Initiate printing from the software application.
- ❏ See your software application's documentation for instructions on how to start printing.

While the printer receives data, the Data indicator blinks. The Data indicator turns off when printing is finished.

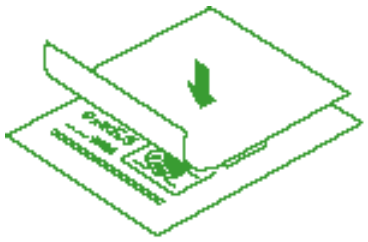
Note

If the printer stops operating while the Data indicator is on, press and hold down the **FF** button to print the received data and eject the sheet.

Auto Feed Guidelines

When automatically feeding stacks of paper, follow these guidelines:

- ❏ Do not open the front cover while printing.
- ❏ Do not leave paper stacked in the printer for long periods of time; longer sheets of paper may become bent or curled over time. This may cause the paper to misfeed or jam.
- ❏ If your printed page contains lots of graphics, the ink on the page may be damp due to the print density. Remove the page right away and allow the ink to dry.
- ❏ To reduce paper jams, remove each sheet as it is printed.
- ❏ The platen (the black flat plate inside the printer) may become inked if you print data beyond the width of the page. If this happens, clean the platen. (For details on cleaning the platen, see Chapter 6, *Maintaining the Printer).*
- ❏ Do not try to load paper into the sheet feeder beyond the capacity of the paper guide; stacking too much paper may cause paper jams or printing problems.
- ❏ Make sure there are no gaps between the stack of paper and the paper guide nor the right edge of the sheet feeder.
- ❏ Let printed sheets of transparency or back print film dry completely before storing them. The complete drying time required for Canon's transparencies or back print film is approximately 15 minutes.
- ❏ When a sheet of film has dried completely, cover its printed side with a sheet of plain (not coated) paper before storing it; this is recommended even if you place the sheets of film in a clear file.



Printing on Envelopes

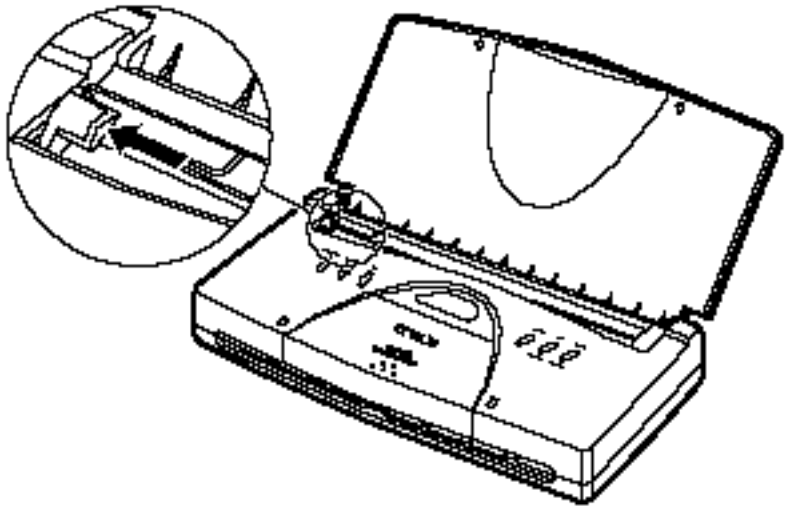
You can stack up to five envelopes in the sheet feeder. U.S. Commercial number 10 (COM10) envelopes and European DL envelopes are recommended. You may be able to stack envelopes of other sizes in the sheet feeder; however, Canon cannot guarantee consistent performance on envelope sizes other than COM10 and DL.

The following envelopes are not recommended because they may cause jams or smears, or may damage your printer:

- ❏ Envelopes with windows, holes, perforations, cutouts, and double flaps.
- ❏ Envelopes made with special coated paper or deeply embossed paper.
- ❏ Envelopes using peel-off sealing strips.
- ❏ Envelopes in which letters have been enclosed.

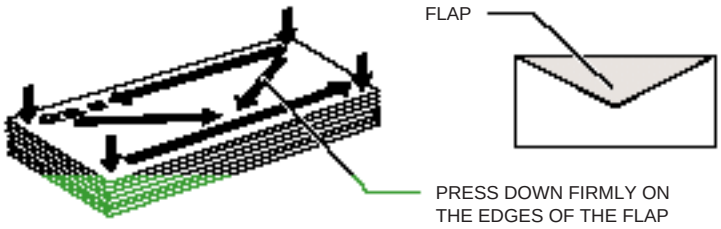
When you are ready to print on envelopes, follow these steps to stack envelopes in the sheet feeder.

1. **Make sure the paper support is open and move the paper guide to the left to match the width of the envelopes.**



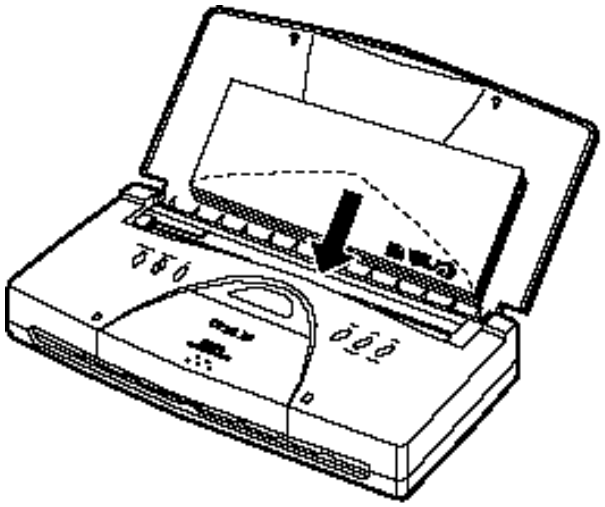
2. Prepare the envelopes.

- ❏ Arrange the stack of envelopes on a firm surface and press down firmly on the edges to make the folds crisp.
- ❏ Press around the envelopes to remove any curls and expel air from inside the envelopes.
- ❏ Also, press firmly on the area that corresponds to the edges of the flap.

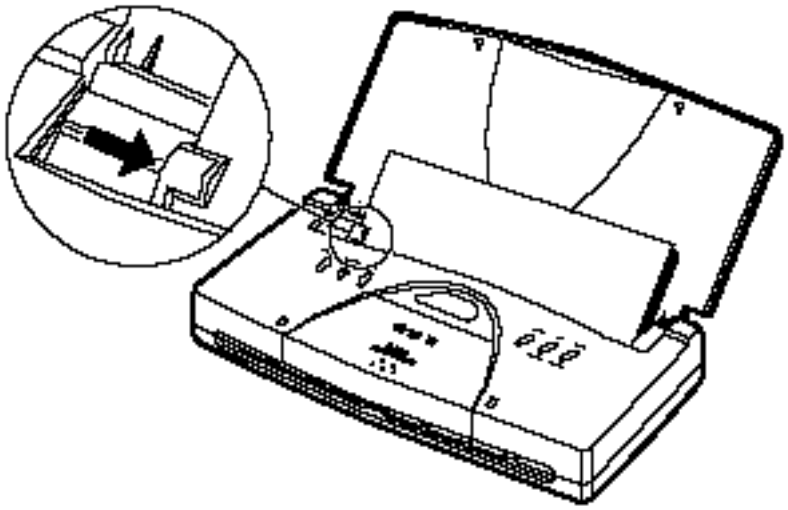


3. Insert the envelopes.

- ❏ Make sure the side you want to print on is facing you and the flap is toward the paper support.
- ❏ Insert the top of the envelope first.
- ❏ Slide a stack of envelopes into the sheet feeder until it stops.
- ❏ Align the stack of envelopes with the right edge of the sheet feeder.



4. **Adjust the paper guide to the stack of envelopes.**



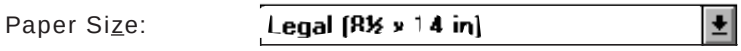
5. **Make sure the printer is on-line and start your print operation.**

   ❑ Your software may need to be configured to print envelopes. See Appendix B, *Application Notes*, for information on printing envelopes in a few popular software applications.

Printing on Legal-size Paper

You can print on legal-size paper by selecting a page size of 8.5 x 14 inches from within your software application or from the printer setup program within the application.

For example, if you are using Windows, simply select Legal for your paper size in the Setup program:

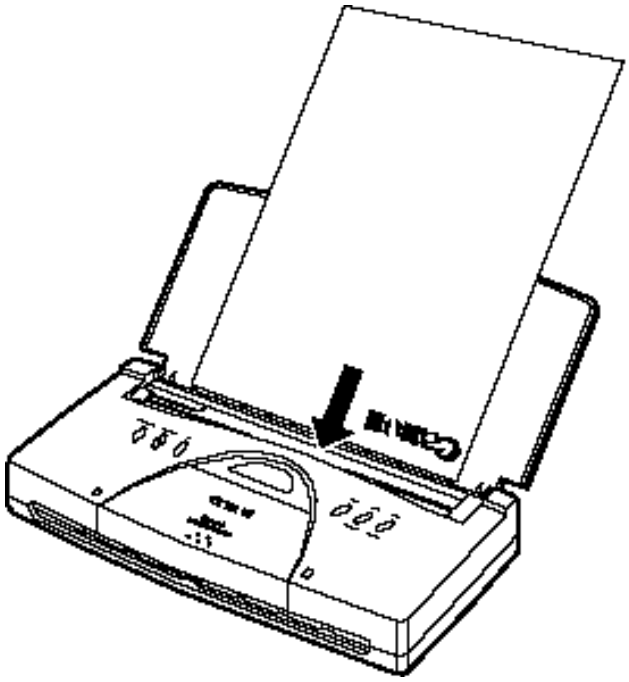


In some MS-DOS applications, you may need to specify the page length in lines per page. For letter-size paper, the page length is 64 lines, and for legal-size paper, the page length is 82 lines.

If you are using an application that does not include a page setup or printer setup procedure, you may be able to use the ESCape sequence to specify your page length. Applications handle ESCape sequences differently, so refer to your application's software manual for instructions on sending commands.

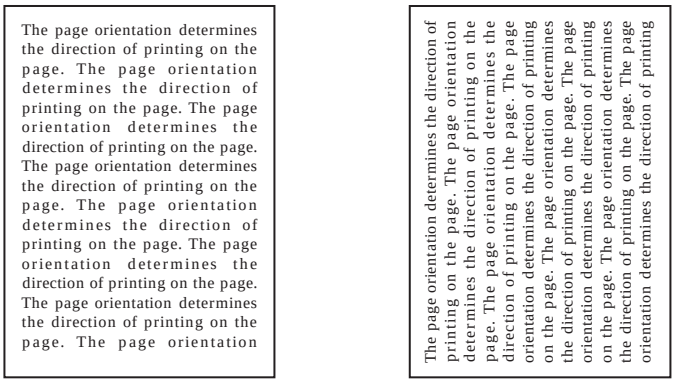
The ESCape sequence for page length is ESC C 0 *n*, where *n* is the page length in inches. For legal-size paper, the ESCape sequence is ESC C 0 14 (27 67 0 14, decimal, or 1B 43 00 0E, hexadecimal).

When printing on legal-size paper, load one sheet at a time and remove each sheet as it is printed.



Printing in Landscape Orientation

The BJ-30 Bubble Jet Printer does not have built-in landscape fonts. However, you can print in landscape orientation through the Windows environment.



If you are not using Windows, you can consider many other software packages that offer landscape font capabilities, such as:

Quatro Pro 3.0
Lotus 2.4
Geoworks
WordPerfect 6.0 for MS-DOS

The following font packages work with the specified software applications. (Product names may be trademarks of their respective companies.)

- **WordPerfect 5.0 and 5.1**
  Bitstream Facelift for WordPerfect
  More Fonts
  Fonts On the Fly
  The Publishers Power Pack

- **Lotus 2.0, 2.1, and 2.2**
  Sideways

- **Microsoft Windows 3.1**
  Adobe Type Manager
  Bitstream Facelift for Windows
  The Publishers Power Pack
  TrueType Font Packs

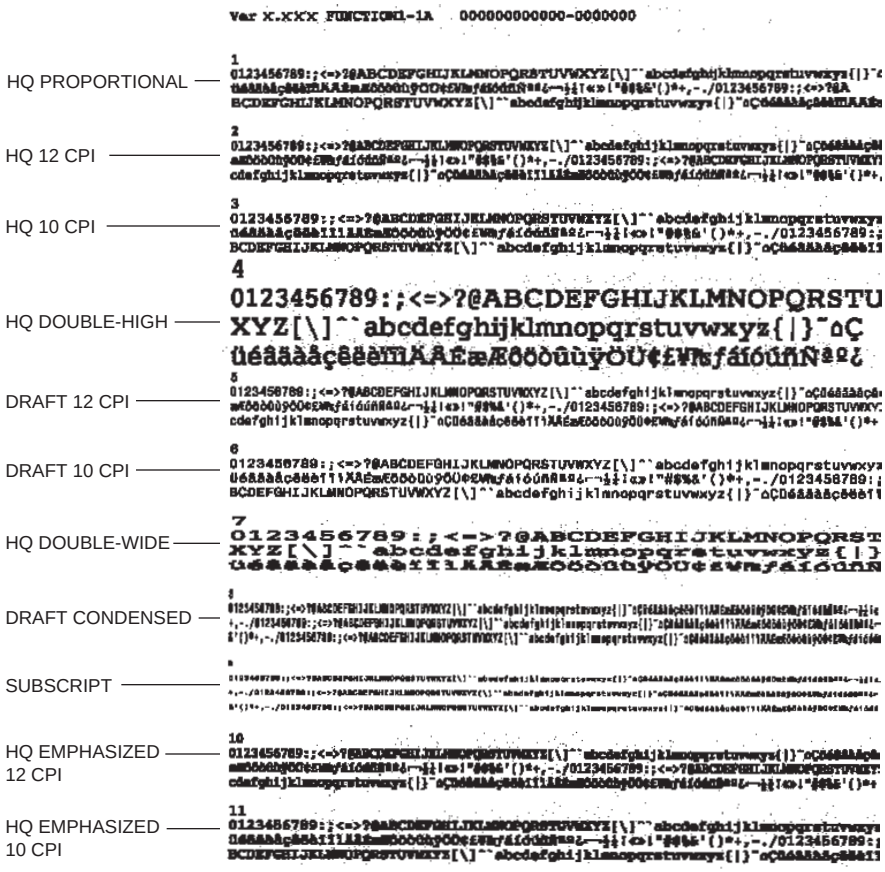
Many other graphics software packages offer landscape printing. Call your specific software manufacturer to see if they offer landscape printing capabilities.

Printing the Test Patterns

You can verify the print quality of your printer by printing any of several test patterns: All modes pattern, Ripple pattern, Nozzle pattern, Demo pattern, and Font pattern.

All Modes Pattern

When the printer is set to BJ mode, you can print a test pattern showing characters printed in the different sizes available in BJ mode. The print sample uses the currently selected font. The following sample shows the All modes pattern in BJ mode.



Note

The All modes pattern cannot be printed in Economy mode.

Ripple Pattern

Print the Ripple pattern to verify the operation of your printer.

All available characters are printed in a repeating pattern using the default print mode and character pitch. The following sample shows the Ripple pattern in BJ mode.



Nozzle Pattern

Print the Nozzle pattern to check that each print head nozzle is operating correctly. The following sample shows the Nozzle pattern:



Font Pattern

Print the Font pattern to display the fonts the printer supports. The printer prints all characters in the available print styles and pitches in each control mode. The following sample shows the Font pattern in BJ mode.



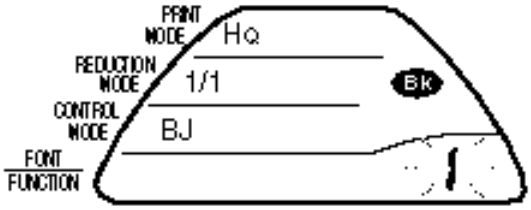
Starting the Test Patterns

To print any of the test patterns, follow these steps:

1. **Make sure the printer is turned on and paper is loaded in the sheet feeder.**

2. **Press and hold the MENU button until the printer beeps twice.**

   ❑ The word FONT disappears and the number 1 blinks in the display.

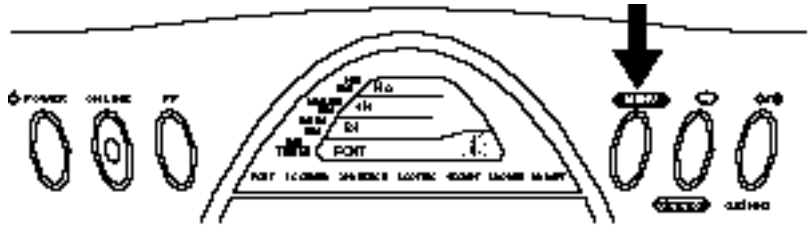


3. **Press the ⇨ button until the number that corresponds to the test pattern you wish to print is displayed:**

Test Pattern	Number
Current settings pattern	1
All modes pattern	2
Ripple pattern	3
Nozzle pattern	4
Hexadecimal dump	5
Demo pattern	6
Font pattern	7

4. **Press the MENU button.**

❑ The printer beeps and the test pattern starts to print.



When you print the Current settings pattern (see page 120), the Nozzle pattern, or the Demo pattern, the printer returns to its previous state after printing a page. When you print the All modes pattern, the Ripple pattern, or the Font pattern, the printer continues printing until you cancel printing.

To cancel printing

You can cancel printing in one of the following two ways:

❑ Press the **ON LINE** button.

❑ Press the **POWER** button to turn off the printer.

Note

If a printer error occurs, such as no paper (E and 1 blink alternately), the printer cancels the test pattern.

Traveling With the Printer

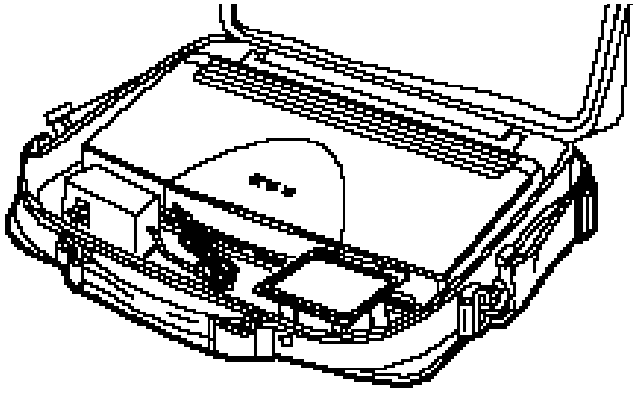
Before transporting the printer, follow these steps to protect the print mechanism:

1. **Turn off the power. This secures the cartridge holder in the home position.**
2. **Remove any paper from the printer.**
3. **Disconnect the interface cable and the AC adapter.**
4. **Close the front and top covers, if necessary.**

Note

The printer is designed so that you can transport it with the BJ cartridge installed. Therefore, do not remove the BJ cartridge. An opened BJ cartridge that is not installed in the printer may leak, and the print head may dry out.

5. **Place the printer and any accessories in a suitable carrying case.**



Follow these additional guidelines:

- ❏ If you are traveling to another country, make sure the AC adapter matches the power requirements of that country. (The optional portable kit and universal adapter allow you to operate the printer in any country.)
- ❏ When traveling with the printer, always pack it with your carry-on items. Do not ship the printer in a suitcase due to baggage handling techniques.

Note

You can take the printer through airport X-ray security checks.

- ❑ When the battery pack is low, you can attach the AC adapter to continue printing. You can also use the remaining battery power for limited printing by pressing **ON LINE**.

- ❑ You can travel with additional battery packs that are fully charged.

- ❑ Recharge the battery pack only when the printer indicates a low battery error. Charging the battery before it is fully discharged reduces the battery capacity. (See Chapter 9, *Installing and Using the Battery Pack*, for details on the battery pack.)

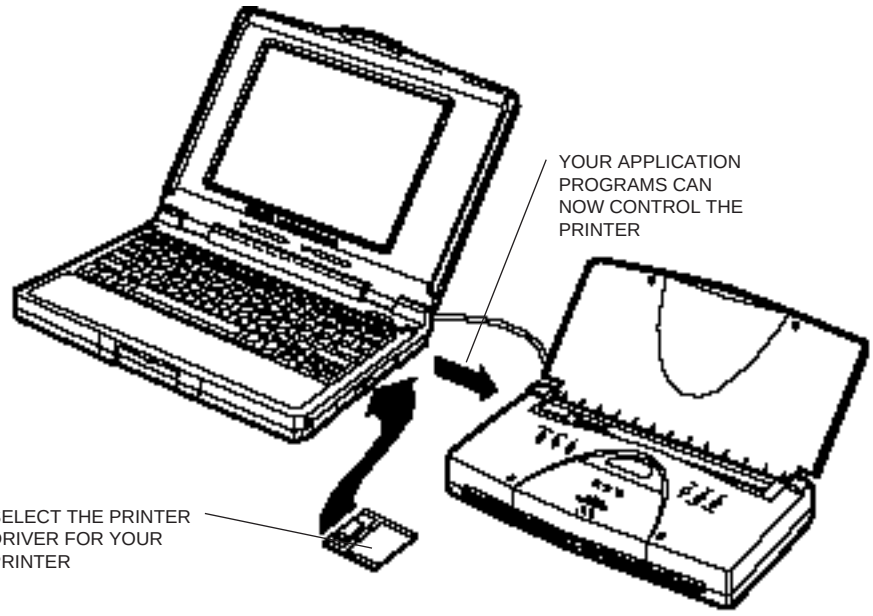
- ❑ Avoid leaving the printer in a closed automobile where it may be exposed to extreme changes in temperature or humidity.

- ❑ After installing a BJ cartridge, always leave it in the printer.

Chapter 4
Using the Printer With Your Software

Your printer will work with a wide variety of applications, such as spreadsheet, word processing, and graphics programs. This chapter describes how to set up your software applications for your printer.

Application programs include a group of programs, called printer drivers, that help the application communicate correctly with specific printers. Before using the printer with your application program, you need to tell the application what type of printer you are using by selecting the printer driver that corresponds to your printer.



Canon provides a BJ-30 printer driver for Microsoft Windows. The easiest way to use your printer is to install the Windows driver and perform your print operations through the Windows environment.

If you are using Microsoft Windows, you have already installed the BJ-30 driver (as described in Chapter 2, *Setting Up the Printer*). The next section, *Printer Setup Within Windows*, describes in detail the options you can select within the printer driver.

If you are not using Windows, see the section *Setting Up MS-DOS Software Applications* (later in this chapter) for information on how to install another printer driver and select a printer control mode.

Printer Setup Within Windows

After you install the Canon BJ-30 printer driver, you can run the Windows Setup program to change the printer settings.

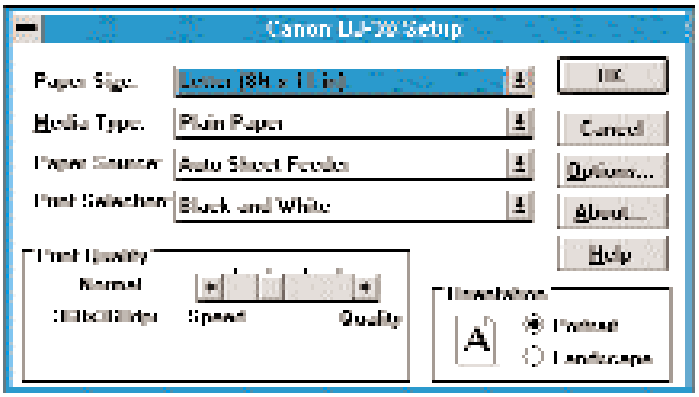
You can access the Setup program from the Printers dialog box in the Control Panel, or you can select the Print Setup option that is available from the File menu of most applications that run in Windows.

Note

If the Print Setup option does not appear in the File menu for your application, refer to the user's manual supplied with the application. It should provide information about changing the printer setup parameters.

To configure your BJ-30 printer driver, follow these steps:

1. Start the application you want to use in the Windows environment.
2. Open the document you want to print.
3. Choose Print Setup from the File menu. The Select Printer dialog box appears.
4. Click once on the Canon BJ-30 printer name to select it.
5. Click on the Setup button. Windows displays the Canon BJ-30 Setup dialog box:



From this screen, you can select the Paper Size, Media Type, Paper Source, Print Color, Print Quality, and Orientation for your print job. You can use these options in any combination. See the next section for more detailed information about the options.

6. Once you select the options you want to use, click on the OK button to close the Canon BJ-30 Setup dialog box, and then click on the OK button to close the Print Setup dialog box.

Selecting Printing Options

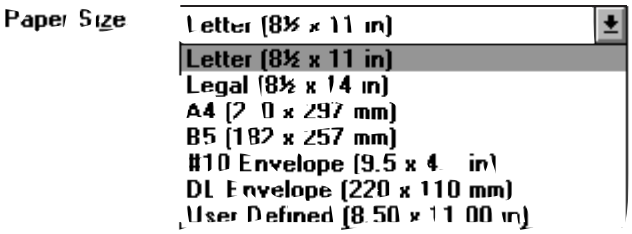
This section describes the printing options available to you through the BJ-30 printer driver.

Note

If other options appear in the dialog box, they are provided by the application you are using. Refer to that application's documentation for more information.

Paper Size option

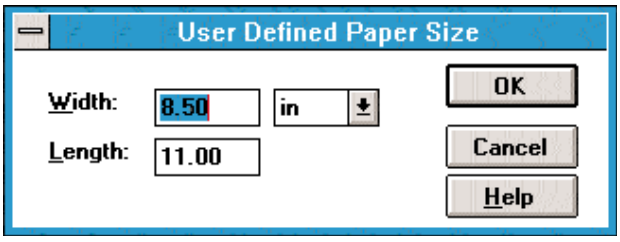
Click on the arrow next to the **Paper Size** setting to select one of the following paper sizes from the drop-down list:



Note

When printing on envelopes or thick paper, make sure the paper selection lever is set to the front position and the paper thickness lever (inside the printer) is up.

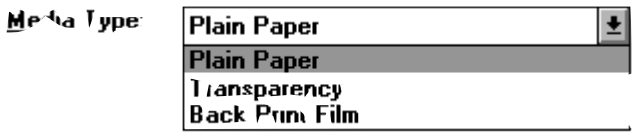
If you select User Defined Size, the Setup program displays the following dialog box:



Select the unit of measure you are using (inches or millimeters), and then specify the width and length of your paper. The width can be from 4.1 to 8.5 inches (104.1 x 215.9 mm). The length can be from 4.1 to 14 inches (104.1 x 355.6 mm).

Media Type option

Click on the arrow next to the **Media Type** setting to select one of the following types of paper from the drop-down list:



When you select the Media Type, the Windows driver changes printer modes. You can experiment with different settings to see the results you can achieve on different types of media. You may find that you can produce higher quality printing on plain paper using a different mode, such as Transparency mode. Because each situation is different, Canon cannot guarantee better output for a particular medium other than the recommended choices.

Plain Paper
This mode is for printing on ordinary paper. This selection sets the color dots generated by the printer to yield the highest quality printed image for this type of paper with minimal bleeding of colors.

- ❏ When you select Plain Paper, the Paper Source defaults to Auto Sheet Feeder and the Print Quality defaults to Normal, 360 x 360 dpi.

Transparency
This mode is for printing on transparency stock. Use Canon Transparencies (CF-102) to achieve the highest possible color fidelity.

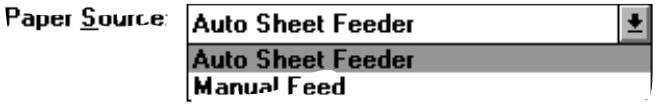
- ❏ When you select Transparency, the Paper Source defaults to Auto Sheet Feeder and the Print Quality defaults to Fine, 360 x 360 dpi.

Back Print Film
This mode is specifically configured for printing on back print film, such as Canon Back Print Film (BF-102). This print medium is a mylar-based translucent sheet on which colors look good and appear very vivid when shown with a backlighting device. This setting causes the printer to print a mirror image on the back print film; when used with a backlighting device, the image is normal.

- ❏ When you select Back Print Film, the Paper Source option defaults to Auto Sheet Feeder and the Print Quality defaults to Fine, 360 x 360 dpi.

Paper Source option

Click on the arrow next to the **Paper Source** setting to select one of the following paper sources from the drop-down list:



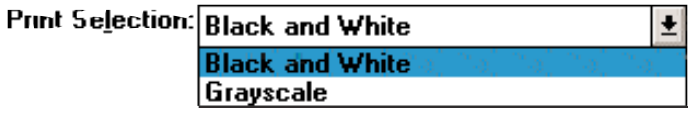
Note

When using manual feed, it is a good idea to turn off the Print Manager in the Printers dialog box.

If you are feeding paper manually and using the spooler, the printer goes off-line before printing each page to allow you to insert paper.

Print Selection option

Click on the arrow next to the **Print Selection** setting to select one of the following options from the drop-down list:



Black and White
This option prints documents in black ink only. Use this setting when printing text files that have no graphic images.

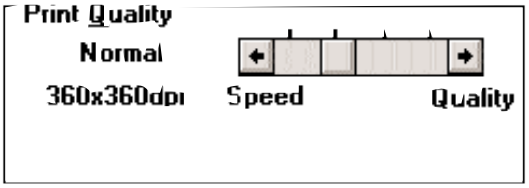
- ❏ When you select Black and White, the Print Quality defaults to Normal, 360 x 360 dpi. However, the Print Quality may change if you select a Media Type other than Plain Paper.

Grayscale
This option prints documents in black ink and produces graphic images in grayscale. This means full color images will be translated and printed in shades of gray.

- ❏ When you select Grayscale, the Print Quality defaults to Normal, 360 x 360 dpi. However, the Print Quality may change if you select a Media Type other than Plain Paper.

Print Quality option

Click on the **Print Quality** selections you want to use:



Adjust the Print Quality setting to match your printing needs:

- ❑ High Speed (left position)—Use this mode for your fastest printing speed at a lower resolution of 180 x 180 dpi. This setting reduces the resolution to improve your application's processing time. Use this setting to print draft copies of your work.

- ❑ Normal (second position)—Use this mode for normal operations. The printer prints at 360 x 360 dpi but uses less ink than high quality mode. Use Normal mode when your documents do not contain graphics or photographic images.

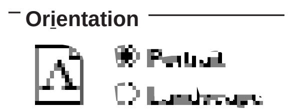
- ❑ High Quality (third position)—Use this mode for your best quality text and simple graphics. The printer prints at a resolution of 360 x 360 dpi, and prints a little faster than Fine mode.

  When you select Black and White or Grayscale mode, the High Quality setting activates Smoothing mode to enhance the sharpness of the printed image.

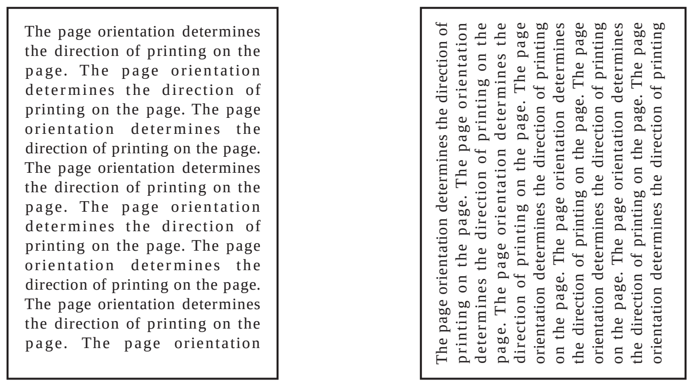
- ❑ Fine (right position)—Use this mode to print at your highest quality printing at the highest resolution. For printing graphics, select Fine mode to reduce banding. This setting will take the longest time to print.

Orientation option

Click on the **Orientation** setting you want to use:



The page orientation determines the direction of printing on the page:



PORTRAIT LANDSCAPE

Other selections

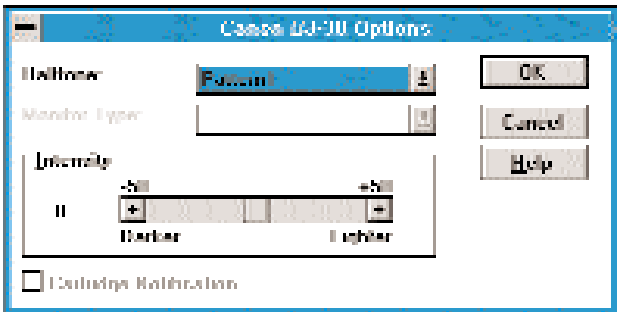
❏ Click on **Options** to access the special options provided by the BJ-30 printer driver for Windows. These options are discussed in the next section.

❏ Click on **About** to display copyright information regarding the Windows driver and its version number.

❏ Click on **Help** to enter the Help program. This program provides useful information to help you specify your printer settings. Be sure to use this Help feature to learn about the settings you can select.

Special Options

The BJ-30 printer driver for Windows provides several special options. From the Canon BJ-30 Setup dialog box, click on the Options button. You see this screen:



These options allow you to select the halftone method you want to use and increase or decrease the intensity of the printed images.

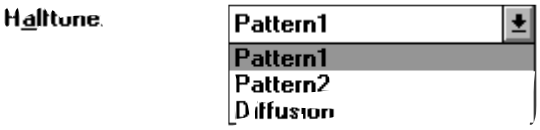
Halftone

This option is available only when the Print Selection is Grayscale.

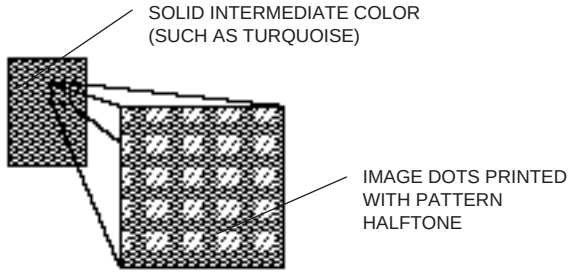
Note

The Halftone options have no effect when Print Selection is set to Black and White.

When you click on the arrow next to the **Halftone** setting, you can select the following options:



Pattern 1 and Pattern 2
These settings uniformly align individual dots to create shades of gray. This method offers fast printing speed and is best suited for printing documents that contain large areas of solid color, such as bar charts and graphs.

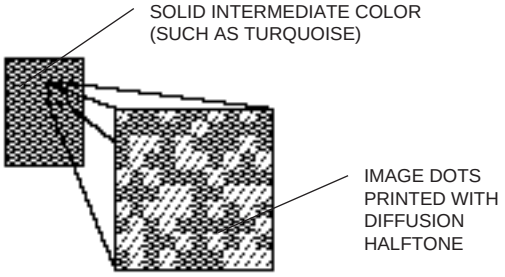


Pattern 1 uses a four-dot pattern and Pattern 2 uses an eight-dot pattern, which creates more white space.

Diffusion
This setting randomly places individual dots to create shades of gray. By randomly placing dots, the printer can achieve subtle gradations. This method is best suited for printing documents that contain finely detailed graphics or photographic images.

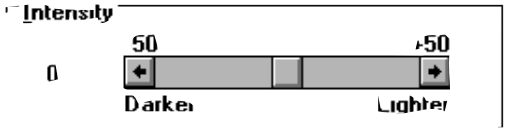
Using diffusion slows the application release time because a larger, more complex page is generated by the software. This type of page requires more time to calculate as well as send to the printer. However, what you lose in print speed may be gained in quality.

The diffusion setting may eliminate banding problems when printing grays on all black images.



Intensity

You can use this option to adjust the **Intensity** of the printed image. Click on the arrows to make the image darker or brighter, or you can drag the slider box right or left along the bar.



Recommended driver settings

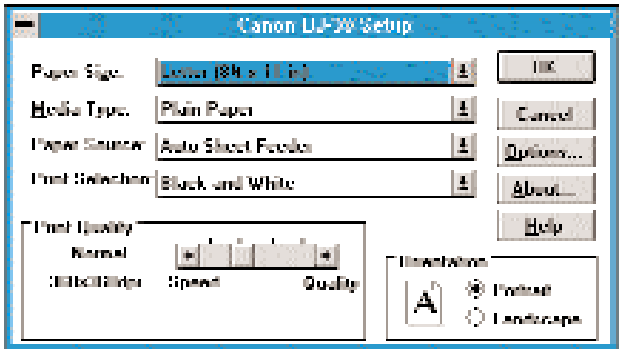
You can select the following printer settings in your Windows driver to achieve the specified results.

	Driver settings			
To achieve	**Print Color**	**Print Quality**	**Halftone**	**Results**
The fastest B&W output possible	Black & White	High speed 180x180 dpi	Only Pattern 1 available	Uses less ink Output quality is draft quality
Fast letter quality output	Black & White	Normal	Only Pattern 1 available	Slightly slower than high speed Quality is not optimized for photo and graphics
Fast B&W photo-graph and graphic output	Grayscale	Normal 360x360 dpi	Diffusion	Slower than B&W but better grayscale quality
The highest quality photograph and graphic output	Grayscale	Fine 360x360 dpi	Diffusion	Slower than Normal but optimizes B&W grayscale quality

Printing a Document

This procedure provides general steps for printing from the various applications you may run in the Windows environment. The exact steps for printing a document may vary depending on the application program you are using. Refer to your program's documentation for the exact printing procedure.

1. Start the program you used to create the document, and open the document you want to print.
2. Choose Printer Setup from the File menu.
3. Select the Canon BJ-30 as your printer and select Setup.
4. Make any adjustments as appropriate for printing your document, and select OK.



5. Select OK to close the Printer Setup window.

6. Choose Print from the File menu.

7. After making any necessary changes to the printing parameters, select OK to start the print job.



It's a good idea to turn off the Print Manager if you are feeding paper manually. To do so, clear the Use Print Manager check box in the Printers dialog box within the Control Panel.

If you are feeding paper manually and using the spooler, the printer goes off-line before printing each page to allow you to insert paper.

Ways to Improve Print Speed in Windows

To improve printing speed, you can try the following:

- ❑ **Turn off the Print Manager in the Windows Control Panel.**
  This avoids the extra step of sending the print file to the Print Manager and may increase your printing speed by as much as 25%, depending on the computer you are using. (See the next section for details.)



- ❑ **Add a permanent swap file in Windows.**
  Under the 386 Enhanced icon in the Windows Control Panel, add or create a permanent swap file that is from 4 MB to 9 MB. The computer will be able to prepare the print file faster. See your Windows documentation for instructions.

- ❑ **Avoid diffusion halftones.**
  In the Options dialog box, choose Diffusion only when printing final output or photographic images. Choosing Pattern1 or Pattern2 allows documents to print as much as 20% faster because the computer does not need to compute to "best possible position" for each dot.

- ❑ **Free up your memory.**
  Use only one software program at a time and unload any screen saving utilities or programs stored in Windows background; this frees up more memory for Windows processing.

- ❑ **Use Black and White when possible.**
  If you will be printing text in black ink only, choose Black and White rather than Grayscale.

- ❑ **Use high speed (draft) modes.**
  The printer will need to image fewer dots.

- **Add RAM to your computer.**
  The computer will be able to prepare the print file faster.

- **Use a computer with a faster processor.**
  The computer will be able to prepare the print file faster.

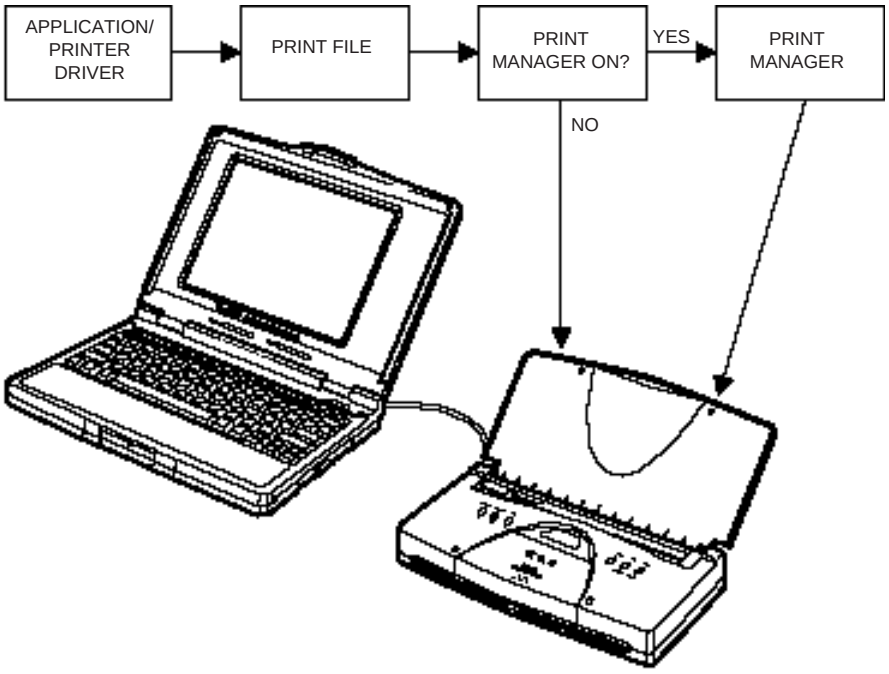
Using the Windows Print Manager

The Print Manager is part of the Windows operating system and controls the printing of your files.

Background printing

When the Print Manager is active, the print file that your application and printer driver create is not sent directly to the printer. Instead, the print file is sent to the Print Manager. The Print Manager then sends the print file to the printer.

This means the Print Manager allows you to print in the *background*. Once the Print Manager receives the print file from the application, you can continue to use your computer for other work. The Print Manager will send the print file to the printer when it has the time and memory available to do so.



Because most of the time it takes to print is actually the processing time needed for the computer to prepare the print file, background printing does not usually give you any real advantage.

Foreground printing

If the Print Manager is not active (turned off), the print file that your application and printer driver create is sent directly to the printer. This means you are printing in the *foreground* and you cannot use your computer for other work until you have finished printing.

The BJ-30 printer usually works best when the Print Manager is turned off. You can turn off the Print Manager by using the Control Panel in the Main Group window. Select the Printers icon, then click on the X that is in the Use Print Manager check box. (This will make the X disappear.)

Setting Up MS-DOS Application Programs

If you are not using Windows, follow the guidelines in this section for setting up your MS-DOS applications for use with your printer. If you installed the Canon BJ-30 printer driver for Windows (as described in Chapter 2, *Setting Up the Printer*) and will be printing only from the Windows environment, you can ignore this information.

Software applications are designed to work with specific hardware setups. Most application programs include an installation program or routine that you run to identify the type of hardware you are using, such as your computer and printer. When you tell your application program what printer you are using, it installs a program, called a printer driver, that supports your printer.

Selecting a Printer Driver

The installation programs for most applications offer a list of printer drivers from which to choose. If the Canon BJ-30 is on the list, select it. This will give you the fullest range of features.

If the BJ-30 is not on the list, select a printer that will have nearly the same operating capabilities as the BJ-30.



Software developers continuously create printer drivers. If your application software does not list a Canon BJ-30 driver, call your software program's technical support line and ask if a BJ-30 driver is available. If they are unable to assist you, call the Canon help desk to see if a driver is available.

To use the printer in BJ mode, select one of the following printers. They are listed in order of preference.

Canon BJ-30 (X24E)
Canon BJ-200/200e (X24E)
Canon BJ-230 (X24E)*
Canon BJ-20/BJ-10e/BJ-10ex/BJ-10sx (X24E)
IBM Proprinter X24E/XL24E*
IBM Proprinter X24/XL24*
Canon BJ-130e*
IBM Proprinter*

To use the printer in Epson LQ mode, select one of the following printers. They are listed in order of preference.

Canon BJ-30 (LQ)
Canon BJ-200/200e (LQ)
Canon BJ-230 (LQ)*
Canon BJ-20(LQ)
Canon BJ-10e/BJ-10ex/BJ-10sx (LQ)
Epson LQ-510
Epson LQ-850
Epson LQ-500
Epson LQ-Printer

*These printers support paper that is wider than 8.5 inches.

After selecting a printer, you can use software commands for all the standard printer functions through the application programs. This includes bold or double strike printing, underlining, superscripts, subscripts, margin control, line spacing control, and graphics.

Selecting a Printer Control Mode

Your printer has three Control modes:

- ❏ BJ mode, which emulates the IBM Proprinter X24E
- ❏ Epson LQ mode, which emulates the Epson LQ-2550 printer
- ❏ Canon Extended mode

You can select BJ mode or Epson LQ mode with the operator panel. Canon BJ mode is the default.

The Canon Extended mode is different from the other two printer control modes. It is automatically selected through the printer driver when the printer is in either BJ mode or Epson LQ mode; therefore, no adjustment is necessary for the printer to select it.

The Control mode you select depends on the printer driver you were able to select in your applications.

- ❏ If you were able to select a Canon Bubble Jet printer or the IBM Proprinter X24E through your application program, you will want to use the printer in BJ mode.

- ❏ If you were able to select an Epson LQ printer through your application program, you will want to use the printer in Epson LQ mode.

You can also select a Control mode based on specific text features you want to use in your document. The following table lists the typefaces and pitches that are available in BJ mode and Epson LQ mode.

	Printer control mode	
Typeface	**BJ mode**	**Epson LQ mode**
Prestige	10 cpi, 12 cpi, 17 cpi, PS	10 cpi, 12 cpi, 15 cpi, 17 cpi, 20 cpi, PS
Courier	10 cpi, 12 cpi, 17 cpi, PS	10 cpi, 12 cpi, 15 cpi, 17 cpi, 20 cpi, PS
Sans Serif	10 cpi, 12 cpi, 17 cpi, PS	10 cpi, 12 cpi, 15 cpi, 17 cpi, 20 cpi, PS
Draft (available in HS mode only)	10 cpi, 12 cpi, 17 cpi, PS	10 cpi, 12 cpi, 15 cpi, 17 cpi, 20 cpi, PS
Roman	10 cpi, 12 cpi, 17 cpi, PS	10 cpi, 12 cpi, 15 cpi, 17 cpi, 20 cpi, PS
Script	10 cpi, 12 cpi, 17 cpi, PS	10 cpi, 12 cpi, 15 cpi, 17 cpi, 20 cpi, PS

The following table lists the print styles that are available in each Control mode.

	Printer control mode	
Typeface	**BJ mode**	**Epson LQ mode**
Italic	No	Yes
Emphasized	Yes (via ESC E sequence)	Yes (via ESC E sequence)
Double-high	Yes (via ESC [@ sequence)	Yes (via ESC w sequence)
Double-wide	Yes (via ESC W sequence)	Yes (via ESC W sequence)
Slashed zero	Yes (via ESC [K sequence)	No

To select the printer's control mode, use the operator panel. Refer to Chapter 5, *Using the Operator Panel*, for details.

Software and Printer Compatibility

Your software sends information and instructions to the printer over the cable that connects the printer to the computer. In addition to data, the instructions may include special command sequences known as control codes and ESCape sequences. These command sequences instruct the printer to perform certain tasks, such as how many lines to skip and where to start printing.

Some control codes are standard throughout the microcomputer industry and are recognized by all printers. Two examples of these are form feed (FF) and line feed (LF).

ESCape sequences are unique to each printer emulation. ESCape sequences begin with the ESCape character (ESC) followed by one or more other characters.

The ESCape character tells the printer not to print the next character or string of characters, but to use the information to perform a printing control task, such as printing in bold or underlining.

Most software programs automatically send control codes and ESCape sequences to the printer. However, some applications may require you to supply the commands. How you enter the control codes and ESCape sequences depends on your software program. Your software program may require you to enter the codes and sequences in a specific format, such as decimal rather than hexadecimal. For example, you can use only decimal format with MultiMate Advantage II™, Professional Write™, and PFS:First Choice™.



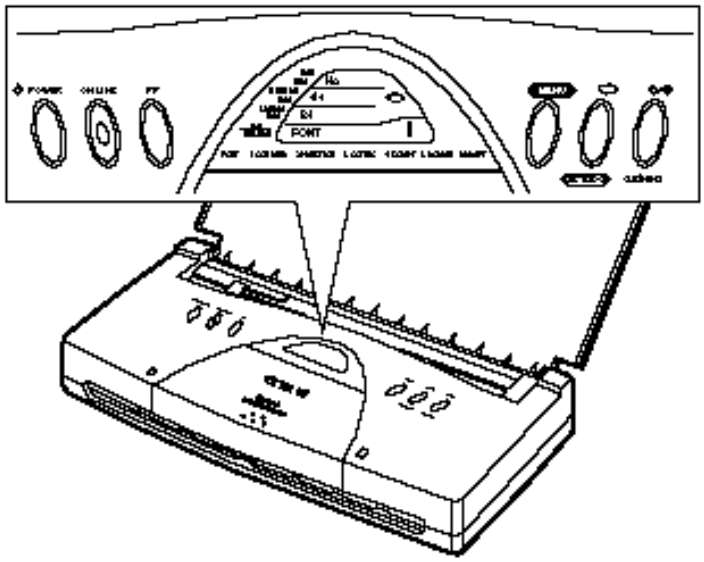
Software program printer drivers may override the printer control codes embedded in a document. This means the command will not take effect because of the way the application handled it.

To determine if an application is overriding your commands, print the document using a generic driver and see if the correct commands are reflected in the printed copy. If they are, the application printer driver is overriding the commands.

If you would like to receive a list of the control codes and ESCape sequences the printer recognizes, you can use Canon's toll-free fax retrieval system to request the *BJ-30 Printer Command Summary*. Call **1-800-526-4345** for details.

Chapter 5
Using the Operator Panel

This chapter provides information on using the operator panel located on the top of your printer. You can control basic printer operations and mechanics through the operator panel. The display reflects the current status and modes of the printer.



Most software applications, such as word processing, spreadsheet, and database programs, automatically handle the printer control operations. For example, your word processing program tells the printer what typeface to use, when to load a sheet of paper, or when to perform a line feed.

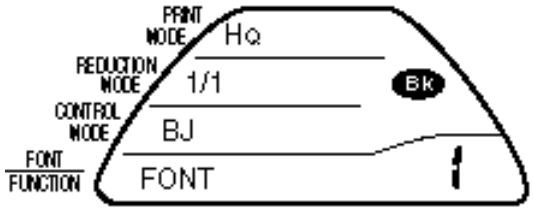
If, for some reason, your application program does not perform these basic functions, you can control them using the printer's operator panel. Also, if you print from MS-DOS software applications, you can select all printer settings from the operator panel. However, any settings you make with your software application override settings made with the operator panel.

In addition to the operations described in this chapter, you use the operator panel to turn the printer on and off and to print the test patterns (as described in Chapter 3, *Using the Printer*).

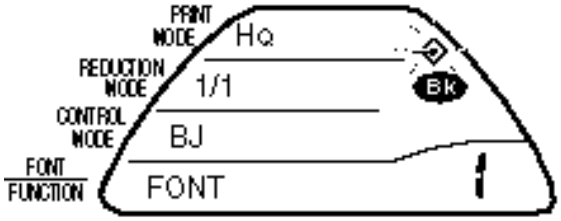
Operator Panel Display

The operator panel provides you information about the printer.

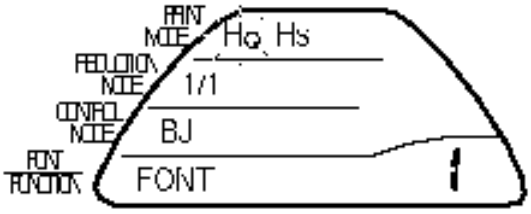
- Ready to print—When you turn on the printer and it is ready to start printing, the LCD display shows you the current modes:



- Receiving data from the computer—When the printer receives data from the computer, the Data indicator starts blinking and the printer starts printing. The display looks similar to this:



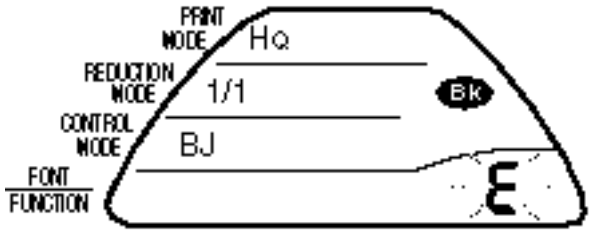
- Ready to change settings—Pressing the **MENU** button puts the operator panel into Menu mode. This mode allows you to change the printer's various modes. The display panel looks similar to this:



  You can select Menu mode only when the printer is not receiving data and the Data indicator symbol is off.

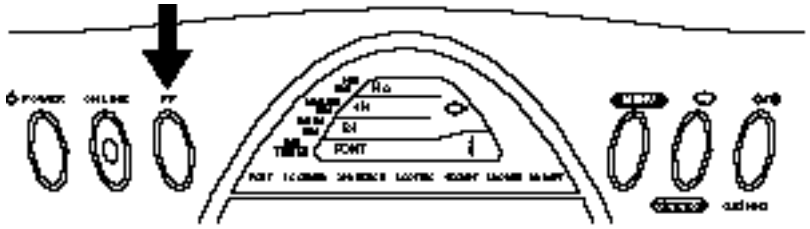
- Printing is disabled—If a printing problem occurs, such as a paper jam, and printing is disabled, the operator panel shows the cause of the problem. The letter E, C, or F, and a number are displayed alternately in the lower right corner of the display.

  See Chapter 7, *Troubleshooting*, for details.



Feeding Paper

You can use the **FF** (Form Feed) button to load a new sheet of paper or eject a sheet of paper in the printer.



Form Feeding

If you are loading the first sheet of paper to its top of form, follow these steps:

1. **Stack the paper properly in the sheet feeder.**
2. **Press the FF button to load the first sheet of paper to its top of form.**

Note

- ❏ If you are running an application program, you do not need to perform this step. The application will tell you when to load paper into the printer.
- ❏ If you are printing in One-half Reduction mode and the paper is positioned in the top half of the page, pressing **FF** advances the paper to the center of the page.

Ejecting Paper

When you want to eject a sheet of paper, press and hold the **FF** button for one second.

- ❏ The printer will eject the current sheet of paper.

Selecting a Print Mode

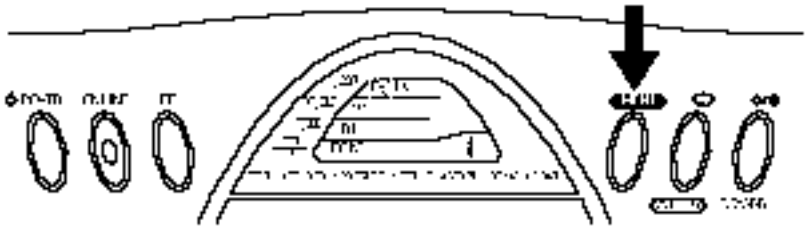
Your printer incorporates different print modes that allow you to select print quality, density of ink, and paper type. The control panel enables you to select two of these print modes, HQ and HS:

- ❏ HQ mode—Set the printer for High quality mode when you want to produce the best possible printed output. This mode is the default.
- ❏ HS mode—High speed mode provides the fastest printing speed; it reduces the print resolution to 180x180 dpi. Use this mode for draft printing.

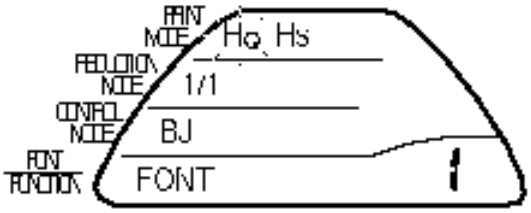
If you are using Windows, the BJ-30 printer driver automatically adjusts the print mode. If you are not using Windows, you may need to set the print mode for your MS-DOS applications.

To set the print mode, follow these steps:

1. **Press the MENU button once.**
   - ❏ The printer beeps once when it enters the Menu mode.
   - ❏ The display shows both print modes with HQ blinking:



2. **Press the ⇨ button to select a print mode. The HQ or HS indicator starts to blink.**



3. **When the desired print mode is blinking, press the ON LINE button.**
   - ❏ The ON LINE light turns on, and the printer is ready to print in the newly selected print mode.

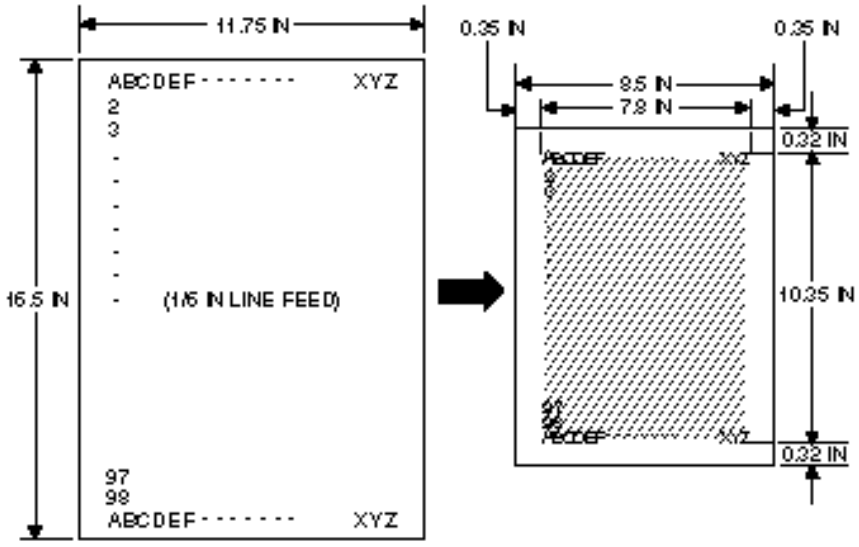
Using the Reduction Modes

The printer supports two Reduction modes for printing spreadsheets and other wide documents on regular paper. You can reduce the printer's output to two-thirds or one-half of its full size.

Two-thirds Reduction Mode

In Two-thirds Reduction mode, the printer automatically sets the print dimensions as follows:

Top margin:	0.32-inch
Left margin:	0.35-inch
Print width (max.):	7.8 inches

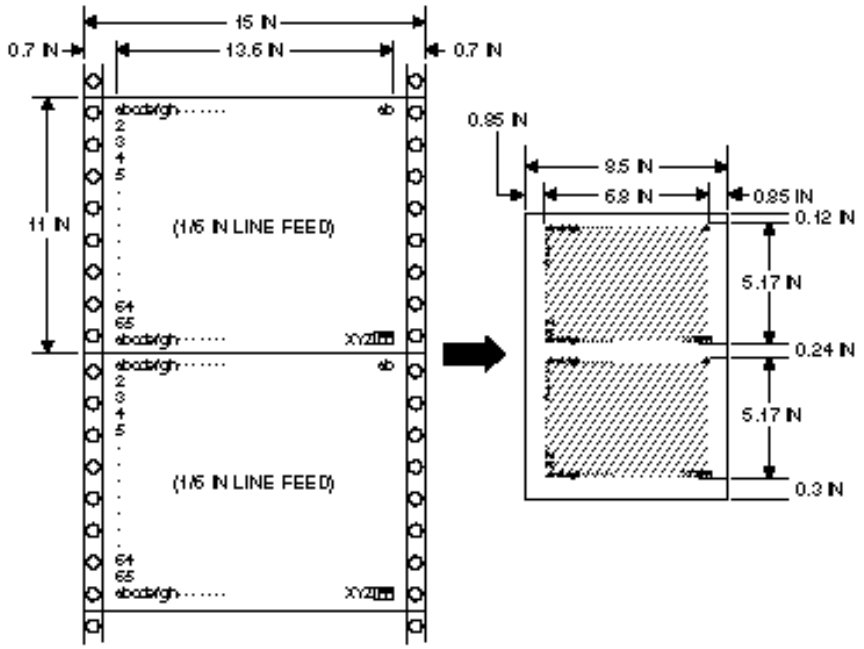


When using Reduction mode, you must select the correct paper size within your application. In the example above, you would specify a paper size of 11.75 x 16.5 inches in your application. Be sure to account for your margins.

One-half Reduction Mode

In One-half Reduction mode, the printer automatically sets the print dimensions as follows:

Top margin:	0.12 inch
Left margin:	0.85 inch
Print width (max.):	6.8 inches



When using Reduction mode, you must select the correct paper size within your application. In the example above, you would specify a paper size of 15 x 11 inches in your application. Be sure to account for your margins.

Selecting the Reduction Mode

We recommend that you use Reduction mode with MS-DOS applications only (not Windows applications). Windows applications have a fit-to-page feature that is not compatible with Reduction mode.

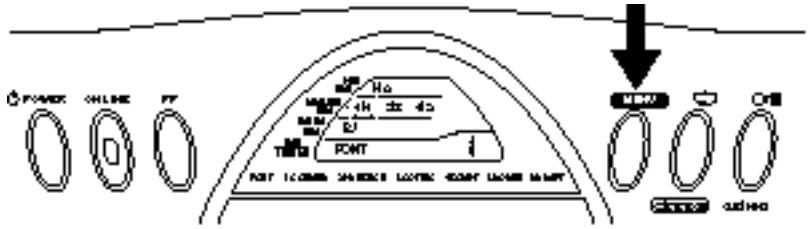
To select the reduction mode, follow these steps:

1. **Press the MENU button once.**

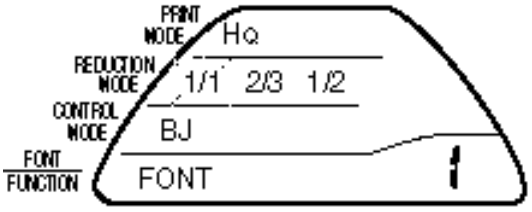
   ❑ The printer beeps once when it enters Menu mode.

2. **Press the MENU button again.**

   ❑ The display shows the possible Reduction modes:



3. **Press the ⇨ button to select the desired Reduction mode.**



4. **When the desired Reduction mode is blinking, press the ON LINE button.**

   ❑ The ON LINE light comes on.

   ❑ Printing in the selected Reduction mode is enabled.

Selecting a Control Mode

The printer's Control mode determines whether the BJ-30 printer functions in Canon BJ mode or Epson LQ mode. In Canon BJ mode, the printer emulates any Canon Bubble Jet printer or the IBM Proprinter X24E. In Epson LQ mode, the printer emulates the Epson LQ printers.

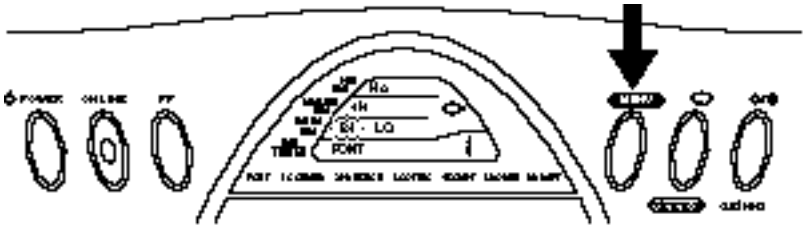
To set the printer's Control mode, follow these steps:

1. **Press the MENU button once.**

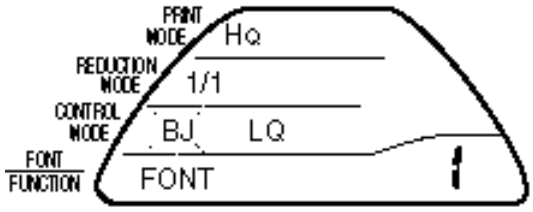
   ❏ The printer beeps once when it enters Menu mode.

2. **Press the MENU button two more times.**

   ❏ The display shows the two control modes.



3. **Press the ⇨ button to select the desired control mode.**



4. **When the desired Control mode is blinking, press the ON LINE button.**

   ❏ The ON LINE light comes on.

   ❏ Printing in the selected control mode is enabled.

Selecting a Font

You can select one of the six fonts listed below. The factory default is Courier.

Courier	Script
Prestige	Roman
Gothic	Draft

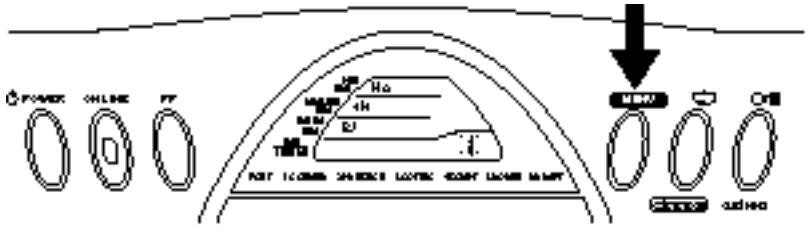
To select a font, follow these steps:

1. **Press the MENU button once.**

   ❑ The printer beeps once when it enters Menu mode.

2. **Press the MENU button three more times.**

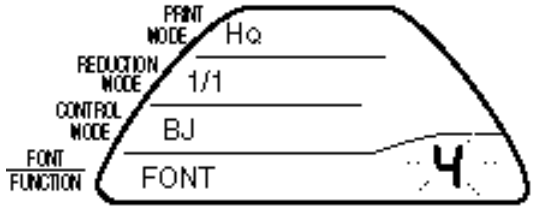
   ❑ The number 1 blinks in the lower right corner of the display.



3. **Press the ⇨ button to select the number that corresponds to the font you wish to use.**

   ❑ If you hold the button down, the numbers are automatically displayed in sequence.

   ❑ The font names and corresponding numbers appear below the display. For example, to use the Script font, select number 4.



4. **When the desired font is blinking, press the ON LINE button.**

   ❑ The ON LINE light comes on and the printer is now ready to print using the selected font.

Note

When printing from an MS-DOS software application, the font selected from the software application normally overrides the font selected using the operator panel. You can ensure that the font selected from the operator panel overrides the MS-DOS application by enabling the Font typeface lock feature through the FUNCTION settings. See Chapter 8, *Customizing the Printer*, for more details.

Using the Low Ink Warning Function

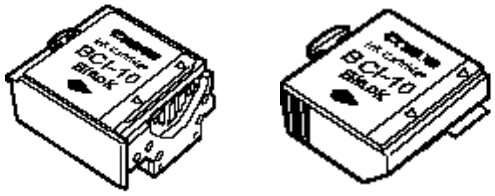
Your printer includes a Low ink warning function that you can enable using the FUNCTION settings described in Chapter 8, *Customizing the Printer*. When you enable the Low ink warning function, which is FUNCTION 1A, you must set the printer's ink gauge.

You set the printer's ink gauge whenever you install a new BJ cartridge or a new ink tank.

Note

The Low ink warning function does not work with the cartridge you installed when you first set up the printer. You can start this function only after installing your first new ink tank.

When you install a new BC-10 Black BJ cartridge or a new BCI-10 Black ink tank, follow these steps:



1. **Make sure the cartridge holder is still in the center position.**
2. **Press the MENU button.**

   ❑ This tells the printer that a new black ink tank is installed and resets the black ink gauge.



Always reset the ink gauge after installing a new BJ cartridge or a new ink tank. If you do not perform this operation, the Low ink warning will not operate properly.

The printer automatically estimates the amount of remaining ink by counting the number of ink ejections. When the printer runs low on black ink, the Bk indicator starts to blink, indicating that your printer will run out of ink shortly. Make sure you have a new ink tank available.



If you replace a BJ cartridge or an ink tank with a used one, the printer will be incapable of estimating the amount of remaining ink. Be sure to replace the BJ cartridge or an ink tank only with a new one.

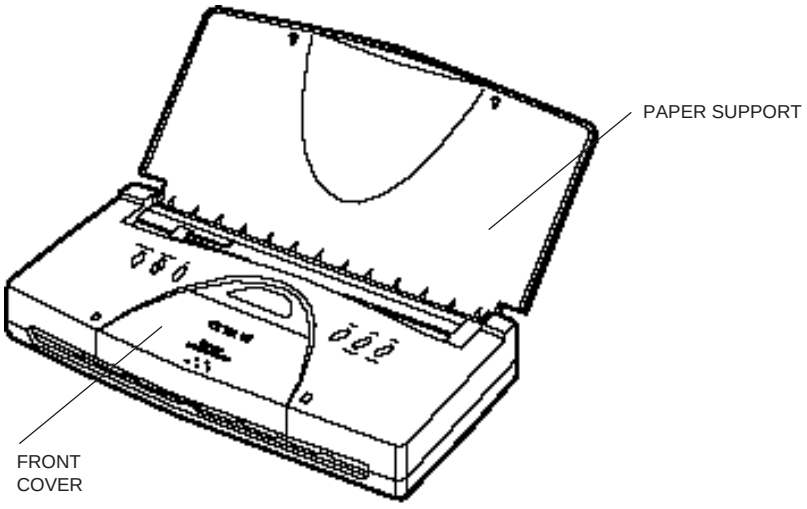
Chapter 6
Maintaining the Printer

This chapter covers the care and maintenance required for your Canon BJ-30 Bubble Jet Printer. It includes printer guidelines, cleaning the printer, cleaning the print head unit, BJ cartridge guidelines, replacing a BJ cartridge, replacing the ink tank, and storing the printer.

Printer Guidelines

Follow these guidelines to obtain optimum performance from your BJ-30 Color Bubble Jet Printer and to avoid damage to your printer and harm to you or others:

- ❑ Set the printer on a stable surface. Do not use an angled printer stand.
- ❑ Do not attempt to pick up the printer by the paper support.
- ❑ Keep the front cover closed when printing.
- ❑ Do not set anything on top of the printer.
- ❑ Make sure the power is off any time you connect or disconnect the AC adapter or interface cable.
- ❑ Do not move the mechanism that holds the BJ cartridge. Attempting to move the cartridge holder may damage delicate mechanical parts.



- ❑ Do not touch the print head nozzles on the print head unit. Ink may leak out and cause stains. Also, you may permanently damage your print head unit, which would require you to purchase a replacement.
- ❑ Canon makes numerous BJ cartridges and ink tanks; the BC-10 is designed specifically for the BJ-30. Therefore, use only the BC-10 cartridge with this printer. Use only the BCI-10 ink tank with the BC-10 BJ cartridge.
- ❑ Never touch the print head on the BJ cartridge or attempt to clean it with a cloth.
- ❑ For best printing quality, use a bond paper with a cotton fiber content (for example, 25% cotton bond paper).
- ❑ Use only the AC adapter that comes with the printer.
- ❑ Always turn off the printer before unplugging the AC adapter—this allows the print head to return to the home position and prevents it from drying out.
- ❑ Keep the inside of the printer clean and dust free; use canned air to clean the inside of the printer.
- ❑ Perform the print head cleaning procedure if your output is not crisp and clear.
- ❑ Keep the BJ cartridges and ink tanks out of the reach of children. (The ink is nontoxic).

Cleaning the Printer

Your printer requires little routine maintenance. Perform the following maintenance, as necessary, to keep your printer in good operating condition.

Be very careful when cleaning the printer. Follow these steps:

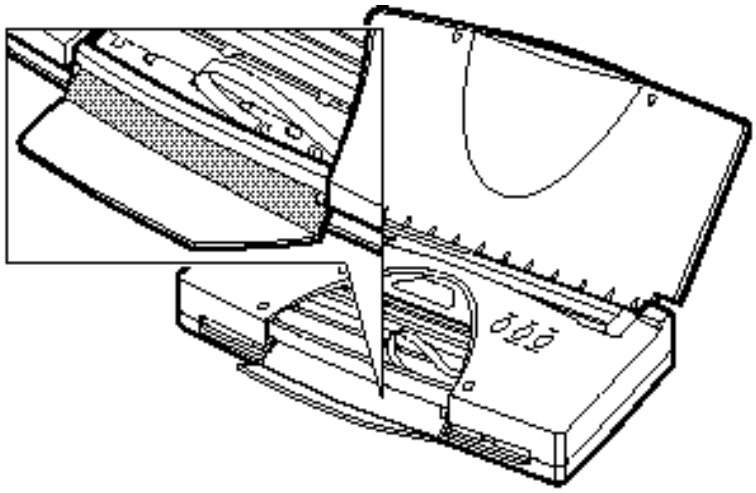
1. **Make sure the BJ cartridge is in the home position (all the way to the right).**

2. **Turn off the printer and unplug the AC adapter.**

3. **Open the front cover.**

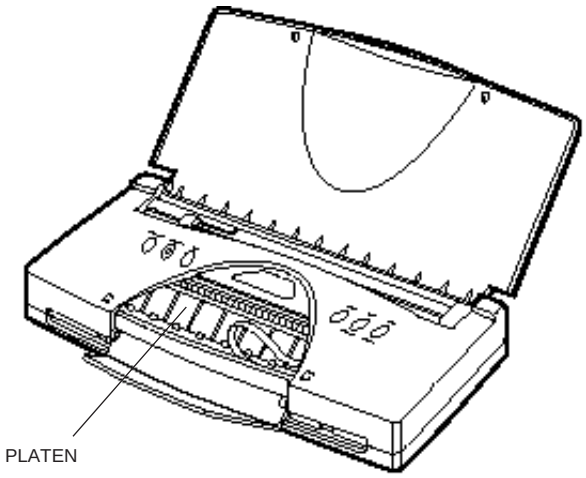
4. **Clean inside the printer.**

   - ❏ Use a soft cloth slightly moistened with water to remove any ink mist or paper debris.
   - ❏ Do not use any oil or cleanser inside the printer.
   - ❏ Do not use paper products (such as paper towels or tissues) to clean the inside of the printer. They may leave paper particles inside the printer.
   - ❏ Carefully clean the inside of the front cover where ink mist may gather.



5. Clean the platen area.

- ❏ Use a soft cloth.
- ❏ Feed a blank sheet of paper through the printer.



6. Clean the exterior of the printer.

- ❏ Use a soft cloth moistened with water.
- ❏ Clean any smudges or dust.
- ❏ Do not clean the exterior of the printer with volatile liquids such as thinners, benzine, or any spray-type or chemical cleaners; doing so will damage the surface of the printer.
- ❏ Do not submerge the printer in water.

Cleaning the Print Head

The print head contains nozzles through which ink is propelled onto the paper. The print head nozzles must be free from paper particles and dust in order to maintain a high level of print quality.

The printer has an automatic cleaning function that clears away paper particles and dust. The printer initiates this automatic cleaning function when you turn it on after it has been turned off for a certain period of time.

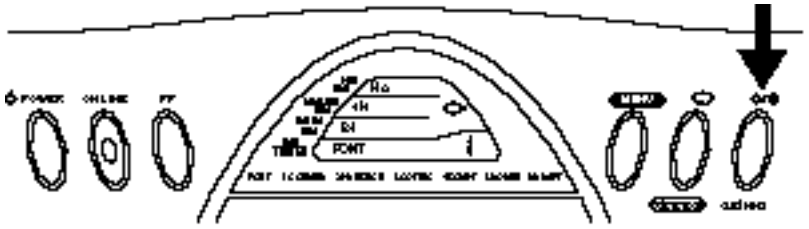
You need to activate the print head cleaning procedure whenever your print quality is poor. There are two types of print head cleaning:

- ❏ Quick cleaning to improve print quality. This cleaning takes about 30 seconds.
- ❏ Extensive cleaning for severe print quality problems. This procedure takes about one minute, and uses more ink than quick cleaning. Therefore, use this procedure only when the quick cleaning procedure does not improve your print quality.

Starting Print Head Cleaning

To start print head cleaning, follow these steps:

1. **Make sure the printer is turned on and on-line.**
2. **To start the quick cleaning procedure:**
   - ❏ Press and hold the **CLEANING** button for approximately one second, until the printer beeps.



3. **To start the extensive cleaning procedure:**
   - ❏ Press and hold the **CLEANING** button for about six seconds. The printer beeps followed by a second beep several seconds later.

While the print head is being cleaned, the ON LINE light will blink.

After cleaning, you can print the nozzle check pattern to check the print head nozzles. See *Printing the Test Patterns* on page 41 for details.

Note

- ❑ Clean the print head only when you encounter a print quality problem. Unnecessary and repetitious print head cleaning wastes ink.
- ❑ Do not clean the print head during printing. Attempting to do so causes the printer to eject the current page and data that has not printed will be lost.

BJ Cartridge Guidelines

You use the BC-10 BJ cartridge with the printer.



The actual amount of ink that you use will vary depending on the print density of a page. If the majority of your output is graphics, you may need to change ink tanks more often than when you are printing text only.

You may need to replace the BJ cartridge or the ink tank when any of the following conditions exist:

- ❑ Your printed output is not crisp and clear, and there are gaps in the characters (missing dots) even after you have cleaned the print head once or twice (using the quick cleaning procedure).
- ❑ You have been using the BJ cartridge or ink tank for over six months.

Caution

Canon makes numerous BJ cartridge and ink tanks; the BC-10 Black BJ cartridge is designed specifically for the BJ-30 printer and is the only one you should use. The BCI-10 Black ink tank is designed specifically for the BC-10 Black BJ cartridge; this is the only ink tank you should use in this cartridge.

BJ Cartridge and Ink Tank Maintenance

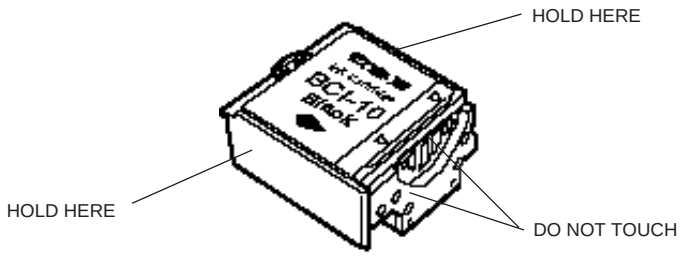
The most important thing you can do to extend the life of your BJ-30 and to ensure optimum print quality is take care of the BJ cartridge.

To ensure excellent print quality, follow these guidelines for maintaining the BJ cartridge:

- ❏ Store BJ cartridges and ink tanks at room temperature and protect them from direct sunlight.
- ❏ Keep BJ cartridges and ink tanks in their sealed containers until you are ready to use them.
- ❏ Install the BJ cartridge in the printer immediately after opening the sealed container.
- ❏ Keep the BJ cartridge in its home position (right side of the printer) when you are not using the printer. Leaving it out of its home position will cause the print head to dry out.
- ❏ Perform the print head cleaning when your print quality is not satisfactory. (See page 79 for instructions.)
- ❏ Replace an ink tank when your print quality does not improve after one or two quick print head cleanings.
- ❏ Replace a BJ cartridge when the print quality does not improve after one or two extensive print head cleanings.
- ❏ Do not remove the ink tank from the BJ cartridge unnecessarily. This may cause the ink to clog.
- ❏ If spilled, the ink is difficult to remove. Therefore, it's a good idea to keep the BJ cartridges and ink tanks out of the reach of children.
- ❏ Do not touch the print head area on the BJ cartridge. Ink may leak out and cause stains.

Caution

Hold the BJ cartridge on the sides only. Do not touch the silver plate or circuit area on the side of the BJ cartridge. The metal area may become hot during printing.



To avoid spilling ink, follow these precautions:

- ❑ Do not attempt to disassemble or refill an ink tank.
- ❑ Do not unpack a BJ cartridge or an ink tank until you are ready to install it.
- ❑ Do not remove a BJ cartridge or an ink tank unless you need to replace it.
- ❑ Do not vigorously shake the BJ cartridge or an ink tank while handling it.
- ❑ Do not stick anything into the opening on an ink tank.



If spilled, the ink is very difficult to clean. Therefore, always follow these precautions and carefully handle the ink cartridges.

Ink Tank Capacity

The BC-10 Black BJ cartridge contains the BCI-10 Black ink tank. The ink tank can print about 170 pages at 5% coverage.

The actual amount of ink that is used will vary depending on the print density of a page. If you often print heavy ink density graphics, you will need to change cartridges more frequently.

Ink tanks continually run out of ink

If your ink tanks seem to run out of ink before you think they should, make sure you are following these guidelines:

- ❑ Make sure you turn off the printer only when the cartridge holder is in the home position. When in the home position, the BJ cartridge is capped; this protects the print head nozzles and ink tank from damage or drying out.
- ❑ Only transport the printer when the BJ cartridge is in the home position.
- ❑ Never unplug the printer or turn off a power strip to which the printer is attached when the printer's power is turned on.
- ❑ Try not to clean the print head unit unnecessarily. The print head cleaning procedure consumes a small amount of ink.

Using Ink

The print head is the device that projects the ink onto the paper. During a print operation, the printer heats the ink to boiling point in the nozzle to form a bubble. The bubble expands until there is no room left in the nozzle for the ink. The printer then ejects the ink onto the paper through the nozzles on the print head.

Ink formulation is the most critical component of a Bubble Jet printer. The ink you use must meet these guidelines:

- ❑ It must be able to be heated and cooled over 6,000 times per second without clogging.
- ❑ It must dry very quickly without bleeding.
- ❑ It must work with different media and software.
- ❑ It must be environmentally friendly.

Canon has more engineers dedicated to providing the best results for output on Bubble Jet printers than any other organization. Canon does not dissuade you from using ink made by third-party suppliers. However, we specifically design and warranty our products for our inks only.

Canon cannot guarantee the quality or performance of your printer when you are using inks from other suppliers. In addition, if a problem emerges as a result of using ink from a supplier other than Canon, your warranty will be invalid.

For optimum printing results, use only Canon BC-10 Black BJ cartridges. When replacing ink tanks, use only the BCI-10 Black ink tank in the BC-10 Black BJ cartridge.

Replacing the BJ Cartridge

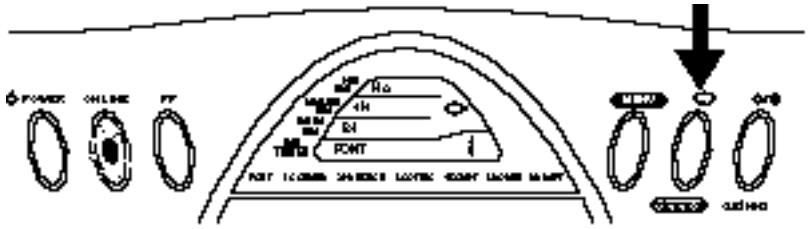
The following procedure describes how to replace the BC-10 Black BJ cartridge. You only need to replace a BJ cartridge if for some reason the print head becomes damaged (see Appendix A, *Specifications*, for BJ cartridge life expectancy). If the ink tank is out of ink, see the next section for instructions on how to replace it.

To replace the BJ cartridge, follow these steps:

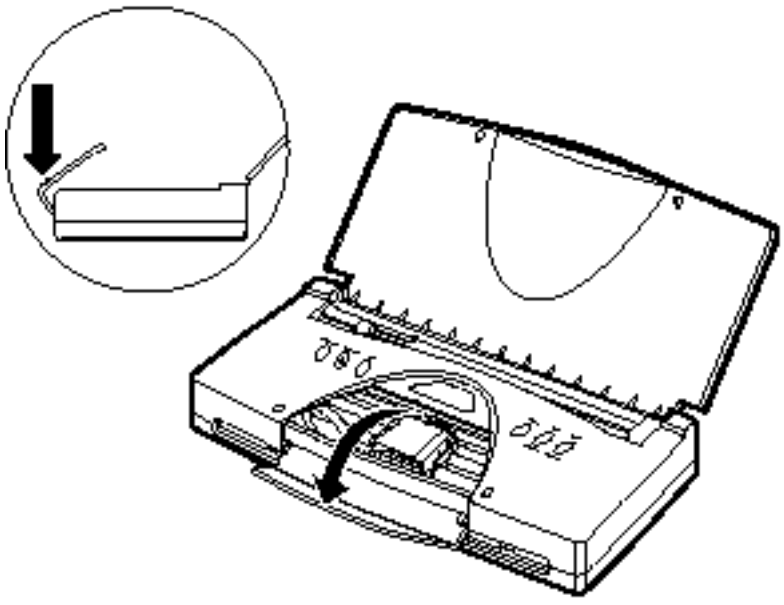
1. **Make sure paper support is open and the power is on.**

2. **Press and hold the CARTRIDGE button until the** ON LINE **light starts blinking.**

   ❑ The cartridge holder moves to the center.

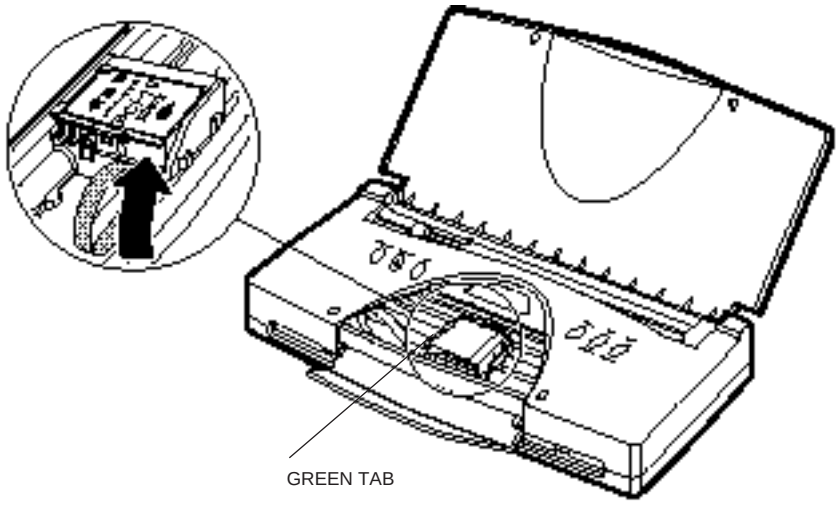


3. **Open the front cover.**



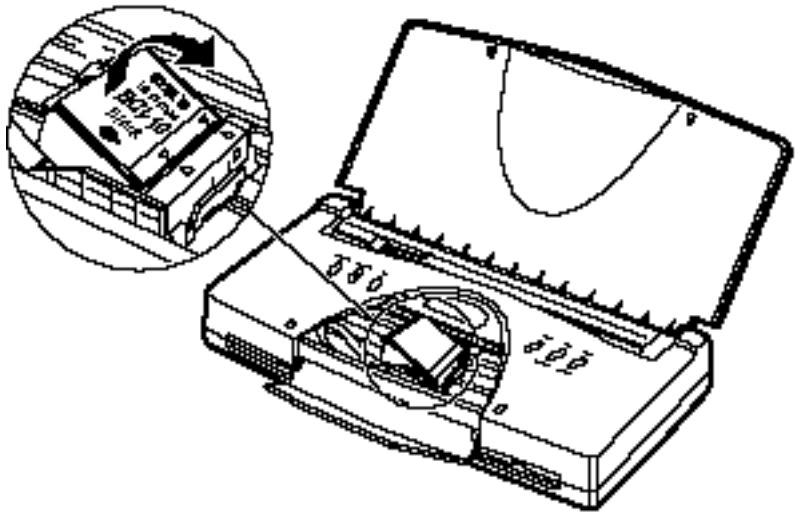
4. **Press the green tab on the front left edge of the cartridge holder.**

   ❏ This releases the BJ cartridge.



5. **Lift the cartridge out of the printer.**

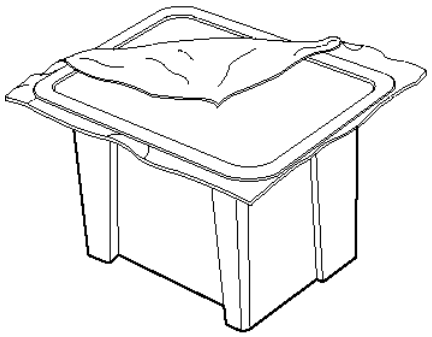
   ❏ The Bk indicator disappears from the display.



6. **Dispose of the BJ cartridge properly.**

7. **Take the new BJ cartridge out of its protective packaging.**

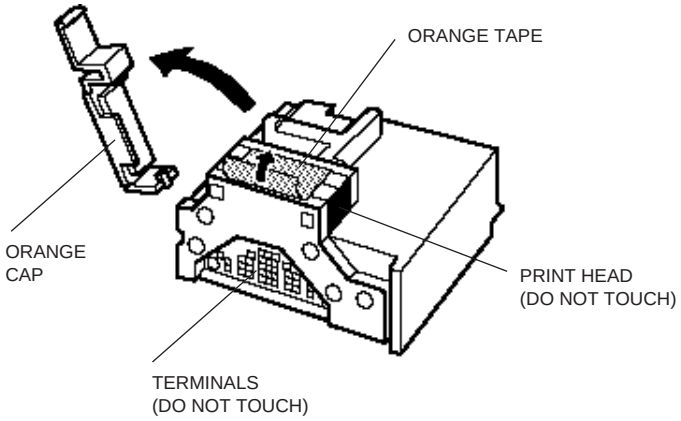
   ❑ Peel off the protective foil.



8. **Remove the protective material from the BJ cartridge.**

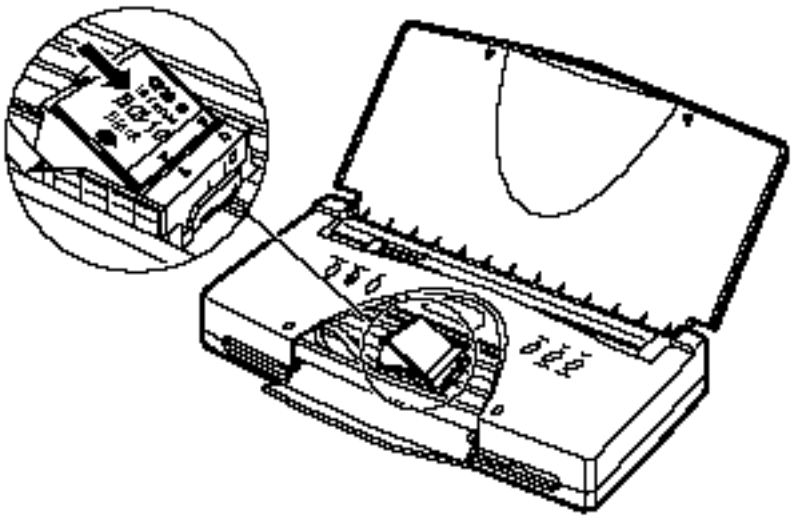
   ❑ Lift off the orange cap from the print head.

   ❑ Then remove the orange tape.



9. Insert the BJ cartridge.

- ❏ Gently place the BJ cartridge into the cartridge holder.
- ❏ Insert the print head unit into the cartridge holder first.
- ❏ Press down on the left side of the BJ cartridge unit.



10. Close the front cover.

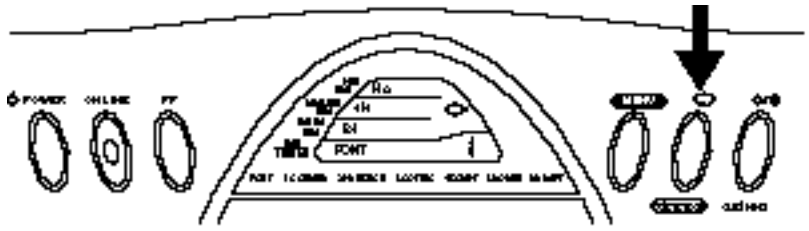
- ❏ Lift up and gently press the cover into place.

11. If you have enabled the Low ink warning function (FUNCTION 1A), you must reset the ink gauge.

- ❏ See page 73 for details.

12. Press the CARTRIDGE button.

- ❏ The cartridge holder moves to the home position on the right side.
- ❏ Make sure that Bk indicator appears on the display.



Replacing an Ink Tank

If you perform a print operation correctly but the output is blank, the ink tank may be out of ink. Perform the print head cleaning two or three times. If the output is still blank, replace the empty ink tank in the BJ cartridge.

Leave the BJ cartridge in the printer when replacing the ink tank.

1. **Make sure the paper support is open and the power is on.**

2. **Press and hold the CARTRIDGE button until the** ON LINE **light starts to blink.**

   ❑ The cartridge holder moves to the center of the printer.

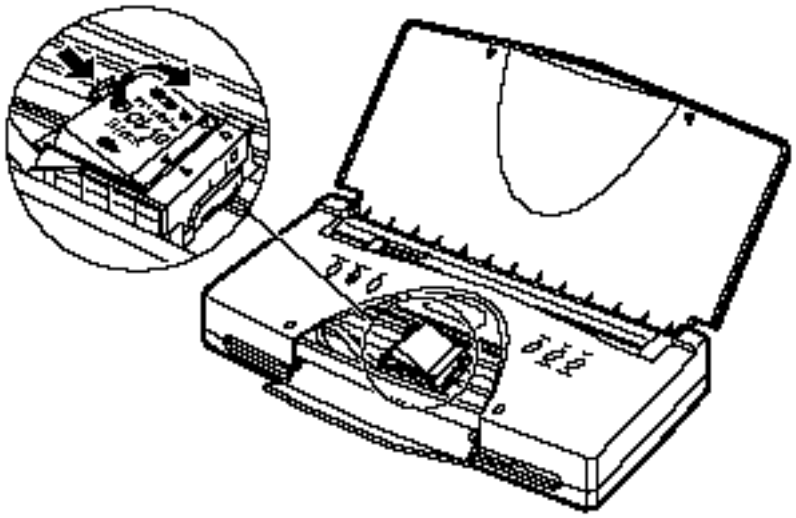
3. **Open the front cover.**

4. **Remove the empty ink tank.**

   ❑ Press in on the tab on the left of the ink tank to release it.

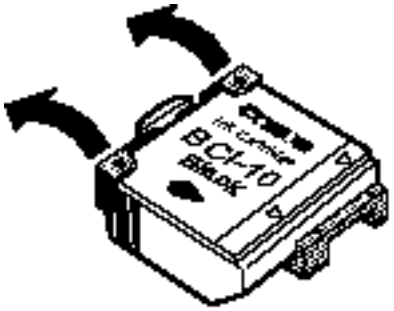
   ❑ Then lift the ink tank up and out of the BJ cartridge.

   ❑ Dispose of the ink tank properly. You may want to place it in a plastic bag to keep from spilling any residual ink.

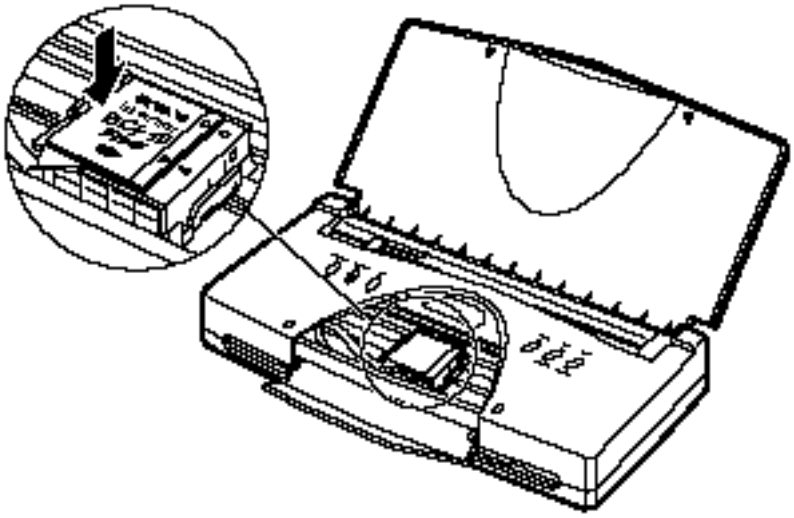


5. **Take the new ink tank out of its bag.**

   ❑ Then remove the orange protection cap.



6. **Carefully slide the new ink tank into the BJ cartridge. and then press down on the left side of the ink tank until it snaps into place.**



7. **Close the front cover.**

8. **If you have enabled the Low ink warning function (FUNCTION 1A), you must reset the ink gauge.**

   ❑ See page 73 for details.

9. **Press the CARTRIDGE button**.

   ❏ The cartridge holder moves to the home position on the right.

   ❏ The ON LINE light stops blinking and turns off.

   ❏ Make sure the Bk indicator turns on.



❏ If you are not satisfied with the print quality after replacing the ink tank, clean the print head. See *Cleaning the Print Head* on page 78.

❏ If, after installing a new ink tank, the printer seems to be printing but ink does not appear, stop the print operation. Make sure the ink tank is seated properly. If necessary, clean the print head as described earlier in this chapter.

Storing the Printer

When storing the printer, observe the following precautions to protect the print mechanism:

1. **Turn off the power. This secures the print head in the home position.**
2. **Remove any paper from the sheet feeder.**
3. **Disconnect the interface cable and the AC adapter from the printer.**
4. **If you are using the optional battery pack, remove the pack along with the attachment case.**
5. **Make sure that the front cover and paper support are closed.**
6. **Place the printer and any accessories in their original packing materials.**



Do not remove the BJ cartridge or the ink tank while transporting or storing the printer. Otherwise, the print head on the BJ cartridge may dry out.

Chapter 7
Troubleshooting

This chapter contains information to help you solve printer problems. A problem may have one or a combination of causes, including a malfunction in your computer, software, the printer cable, or the printer. Many printing problems are related to how your software interacts with the printer.

If you can print a self test but the printer does not print or your printed output is not what you expect, the problem is with your computer, software, or cables. Check these items for a problem.

If your printer is not operating properly, try the suggestions in this chapter. Try the solutions in the order listed. The following list shows the problems covered here.

Check List

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Errors Indicated on the Display	94
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Recoverable Errors	96
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Operational Problems	97
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If you have a problem with your printer and you cannot resolve it by referring to the information in this chapter, contact the Canon help desk at **1-800-423-2366** (U.S.A.) or **1-800-263-1121** (Canada). The staff at the help desk is trained in the technical support of Canon's products and should be able to help you with your problem. If your printer requires service, the staff at the help desk can provide you with the telephone number of your local Canon Authorized Service Facility (ASF).

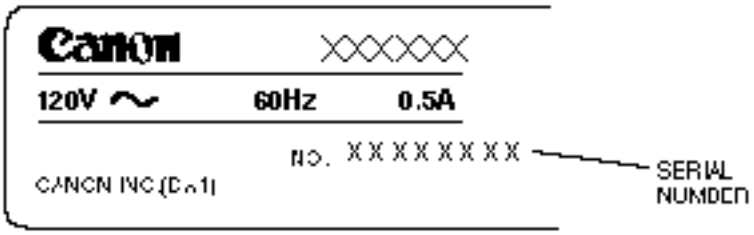
Note

Attempting to repair the printer yourself may void the warranty.

Before contacting Canon, make sure you have the following information:

- ❏ Product name
- ❏ Serial number
- ❏ Place of purchase
- ❏ Nature of problem
- ❏ Steps you have taken to solve the problem and the results

The serial number is located on the label on the bottom of the printer:



Errors Indicated on the Display

Errors indicated on the display are divided into the three categories and assigned error codes as shown in the table below.

Warnings
The printer is alerting you to a particular state; printing is temporarily disabled.

- ❏ A short buzzer sounds twice.
- ❏ C and a number are displayed alternately.
- ❏ If the Bk indicator starts to blink, the printer is running low on ink.

Recoverable errors
The printer is unable to continue printing without you making an adjustment.

- ❏ A short buzzer sounds twice.
- ❏ E and a number are displayed alternately.

Service call errors
The printer may have an unrecoverable error that needs servicing.

- ❏ A buzzer sounds for about five seconds.
- ❏ F and one or two numbers or letters (other than C) are displayed alternately.

Problem	Cause	Solution
Warnings		
Blinking C and 5	Low battery notice	Press the **ON LINE** button to set the printer back on-line. You can print again. Be sure to plug your AC adapter into the printer as soon as printing is complete. Otherwise, the printer detects a low battery notice condition again and eventually the printer may stop operating. If you leave the printer in low battery notice condition for more than five minutes, the printer turns off automatically.
Blinking C and 6	Automatic cartridge change completion	Press the **ON LINE** button to set your printer back on-line. If you neglect to press the **CARTRIDGE** button when you change the BJ cartridge or an ink tank, the printer returns the cartridge holder to its home position automatically in order to prevent the print head from drying out. The printer notifies you that this has occurred by alternately flashing C and 6 in the display.
Blinking Bk indicator	Ink low notice	If the Bk indicator blinks, the printer is running low on black ink. Make sure a new ink tank is available. If you continue printing, the printer will run out of ink and you will have printing problems, such as white streaks. Cleaning the print head will not help. Replace the ink tank with a new one.

Problem	Cause	Solution
Recoverable Errors		
Blinking E and 1	No paper error	After adding paper to the sheet feeder, press the **FF** button to feed paper, or press the **ON LINE** button to set the printer on-line.
Blinking E and 2	Paper jam error	After removing the jammed paper from the printer, press the **ON LINE** button. See *Clearing Paper Jams* on page 116 for detailed instructions on removing jammed paper.
Blinking E and 6	BJ cartridge not properly installed error	The BJ cartridge may not be installed or may be installed incorrectly. Press the **CARTRIDGE** button to move the cartridge holder to the center and check that the BJ cartridge is installed. If the cartridge is not installed, install one. If installed, remove it and try installing it again. See *Installing the BJ Cartridge* on page 14 for instructions on installing cartridges.
Blinking F and C	Low battery error	The printer can no longer operate on battery power. Turn off the printer, and plug the AC adapter or the universal adapter into the printer, or replace the battery pack with a charged one. Then turn the printer on again. You can start the print operation again. However, any data sent from your software application to the printer will be lost.
Service Call Errors		
Blinking C and 1	Service error	Press the **ON LINE** button. The printer resumes operation. Contact your Canon authorized dealer as soon as possible.
Blinking F and 14	Service error	Contact your Canon authorized dealer as soon as possible.

Problem	Cause	Solution
Blinking F and other number	Other service call errors	If you see a message consisting of the letter F in combination with a number (such as F1 or F2) and the printer beeps for about five seconds, turn the printer off and reconnect your AC adapter. If this does not cause the printer to stop beeping, make a note of the message number and call your local Canon authorized dealer.

Operational Problems

If you are having problems with the printer, check the problems and solutions listed in the following table.

Problem	Cause	Solution
No power reaching printer	The printer may not be turned on.	Hold down the **POWER** printer button until the printer beeps.
	The printer may not be securely plugged into the AC adapter.	Make sure the AC adapter is plugged securely into the printer and into a wall outlet.
		If the AC adapter is connected to a power strip, make sure the power strip is connected to an outlet and turned on.
	The AC outlet may not be supplying power.	Check the AC outlet.

Problem	Cause	Solution
Data from computer is not printed	The printer may be off-line (ON LINE light off).	Press the **ON LINE** button to turn the printer on-line (ON LINE light is on).
	The interface cable may not be securely connected to the printer and the computer.	Check the interface cable connection.
	The interface cable may not be the correct type.	Make sure the interface cable is a parallel interface cable.
	The printer or computer may have been turned on when you connected the interface cable.	Turn off the printer and the computer, then turn them back on again.
	The application may not be set up properly.	Check the computer or the application to see if the host is configured correctly: printer port, printer driver, print manager.
	The parallel port may be disabled in your computer's CMOS memory.	Check your computer's CMOS to see if the primary parallel port is set to LPT1. (Your computer should have a setup program that allows you to check the CMOS settings.)
BJ cartridge moves, ink does not appear	The BJ cartridge or ink tank may not be installed properly.	Make sure the BJ cartridge and ink tank are properly installed.
	The nozzle on the BJ cartridge may be clogged.	Perform the extensive print head cleaning procedure described on page 79.
	The ink tank may be empty.	Remove the ink tank and check that it has ink. Replace the ink tank.

Problem	Cause	Solution
Printer suspends print after every line is printed	If the Data indicator blinks while the printer is suspended, then the printer is slowing its print speed at the end of each line to protect the print head. The print head may have become too hot.	If you have been printing for awhile, the print head may have become too hot. In this case, the printer automatically goes into protection mode and slows down in order to cool the print head. You can stop your print operation and wait several minutes to allow the printer to cool. Then start your print operation again.
Overall printing is slow from MS-DOS	Smoothing mode may be enabled.	Disable Smoothing mode.
	High quality mode may be enabled.	Try turning off HQ mode via the operator panel.
	The print head may have become too hot.	If you have been printing for awhile, the print head may have become too hot. In this case, the printer automatically goes into protection mode and slows down in order to cool the print head. You can stop your print operation and wait several minutes to allow the printer to cool. Then start your print operation again.
Overall printing is slow from Windows	The Print Manager may be turned on.	Make sure the Print Manager is turned off.
	Print options may be too complex.	In the Windows driver or your software application, set all print options to their defaults, such as: Plain Paper, Black and White mode, High Quality, Pattern Halftone. See *Ways to Improve Print Speed in Windows* on page 57 for complete details.

Printing Problems

If you are having printing problems, check the problems and solutions in the following table.

Problem	Cause	Solution
Data from computer is printed, but is not what you expected	There may be a communication problem between the printer and your computer.	Check the computer or the application to see if the host is configured correctly: printer port, printer driver, print manager.
	Cable connections may not be secure.	Check that your cable connections are secure.
	Interface cable may be too long.	Make sure your parallel cable is less than 6.6 feet (2 m).
	Emulation switching may not be functioning properly.	Turn off Automatic emulation switching mode; see Chapter 8, *Customizing the Printer*, for details.
	The printer driver may not be correct.	Make sure you selected the correct printer driver in your software.
	Printer control mode may not match the printer device.	Check that the printer control mode (BJ or Epson LQ) matches the printer driver you selected.
	Previous software settings may not be cleared.	Check that the printer was cleared of the previous software settings before the print job started.
Printed characters do not match characters on the screen	Many graphics characters and special symbols are produced by different ASCII codes according to the type of printer and computer being used.	Set the correct Control mode using the operator panel. Set the correct character table using the printer's FUNCTION settings. For details on character tables and character sets, contact the Canon fax retrieval system and request the *BJ-30 Printer Command Summary*.

Problem	Cause	Solution
Printing beyond edge of page	Paper may not be aligned correctly in sheet feeder.	Make sure the paper is aligned correctly in the sheet feeder.
	Software settings may be incorrect.	Check the software setting for the right margin.
	FUNCTION 1 may be set incorrectly.	Check the setting of FUNCTION 1. This setting controls the horizontal print position: ❑ For letter-size paper, set it to OFF. ❑ For envelopes, set it to OFF. ❑ For A4-size paper, set it to ON.
Printout does not match paper size	Paper size selected in driver may be incorrect.	Make sure the paper size you select within your printer driver matches the orientation in which you load the paper in the printer.
	Paper width selected in driver may be incorrect.	Make sure the width of the paper on which you are printing matches the width defined by your software so the paper is always between the print head unit and the platen. **NOTE:** If the print head does print on the platen, wipe the platen clean with a dry cloth. (See page 78 for details.)

Problem	Cause	Solution
Printing incorrect number of lines on page	FUNCTION 3 may be set incorrectly.	Check the setting of FUNCTION 3. This setting determines the page length: ❑ For letter-size paper, set it to OFF. ❑ For envelopes, set it to OFF. ❑ For A4-size paper, set it to ON.
	Margin settings may be incorrect.	Check the top and bottom margin settings within your software application. Check the top margin setting determined by FUNCTIONs 4 and 5. If the printer is printing too few lines, make the top margin more narrow. If the printer is printing too many lines, make the top margin wider.
	Paper may not be loaded properly.	Make sure your paper is loaded correctly. **NOTE:** If your application requires 66 lines per page, try setting FUNCTION 2 to ON. This enables text scale mode. See Chapter 8, *Customizing the Printer*, for details on the FUNCTION settings.

Problem	Cause	Solution
Printer is not using font you selected from the operator panel	Your software may be overriding the settings.	Change the initialization or setup string that your software sends. You may need to do this using a menu or screen provided by your application software. See your application user's manual for information about how your software works with your printer. To enable the font typeface lock function, set FUNCTION 8 to ON. When on, the printer will always print with the font you select from the operator panel.
Printout curls	Your page may include a dense amount of ink.	Remove the printout immediately and let it dry, then roll it in the direction opposite to the curl.
Computer indicates device time-out	A device time-out occurs when your computer sends data to the printer but the printer does not respond. The printer may be off, off-line, or not connected to the computer.	Make sure the printer is turned on and on-line. Check that the printer's interface cable is securely attached to both the printer and the computer. Make sure paper is properly loaded in the sheet feeder. Try the print operation again. If you want your computer to continuously retry sending data to the printer's parallel port, add the following statement to your AUTOEXEC.BAT file: `MODE LPT1,,P`

Paper Loading Problems

If you are having paper loading problems, check the problems and solutions in the following table. After solving a paper loading problem, remove the paper and load it correctly. Then press the **ON LINE** button to set the printer on-line again.

Any of the following paper loading problems may cause the paper to jam in the printer. See page 116 for complete instructions on how to clear a paper jam.

Problem	Cause	Solution
Paper does not load into printer	The sheet feeder may contain too many sheets.	Make sure the sheet feeder does not contain too much paper.
	Paper may not be inserted correctly.	Make sure paper is inserted all the way into the sheet feeder.
	Single sheets may not be feeding correctly.	When manually loading paper, be sure to insert a single sheet of paper all the way into the sheet feeder. If the paper is not inserted far enough, the printer cannot load it.
Paper is loaded skewed (printing is skewed)	Paper may not be stacked correctly in sheet feeder.	Make sure the stack of paper is straight in the sheet feeder. Make sure the right side of the stack of paper is aligned against the right side of the sheet feeder and the paper guide is aligned against the left side. Make sure the paper exit path is clear.

Problem	Cause	Solution
Multiple sheets load into printer	Paper may not be inserted correctly.	Make sure paper is inserted all the way into the sheet feeder.
	Sheets of paper may be sticking together.	Make sure the paper is not sticking together. Be sure to fan the stack of paper before placing it in the sheet feeder.
	Too much paper may be stacked in the sheet feeder.	Make sure the stack of paper does not exceed the paper guide. If necessary, remove a few sheets from the sheet feeder. Do not force the stack into the sheet feeder.
	Different types of paper may be stacked in the sheet feeder.	Load just one type of paper. Make sure you are loading paper that matches the specifications of this printer. See Appendix A, *Specifications*, for details.
Envelopes do not load	Envelopes may not be loaded correctly.	Make sure the envelopes are loaded properly: ❏ The top of the envelope goes in first. ❏ The flap is toward the sheet feeder. ❏ The right side of the envelope is aligned against the right side of the sheet feeder. ❏ The left side is aligned against the paper guide. Make sure there are no more than five envelopes in the sheet feeder.
	Single envelopes may not be feeding correctly.	For manual loading, make sure the envelope is inserted all the way into the printer.
	Envelopes may not match specifications for this printer.	Envelopes must be U.S. Commercial number 10 (9.5 x 4.1 inches) or European DL envelopes (220 x 110 mm).

Problem	Cause	Solution
Transparency film or back print film does not feed correctly	Film may not be loaded correctly.	Make sure you load no more than 10 sheets of transparency film or back print film in the sheet feeder. Make sure you put a single sheet of plain paper at the back of the stack. Try to load transparency films or back print films sheet by sheet. These films may not advance correctly in low or high temperature.
Paper does not eject after printing	Your software application may not be telling the printer to eject the paper after printing.	Press the **ON LINE** button to set the printer off-line. Press and hold the **FF** button for one second to eject the paper. To resume printing, press the **ON LINE** button.
Repeated paper jams occur	The paper you are using may be causing the jams.	Fan the paper before stacking it in the sheet feeder. This keeps the sheets of paper from sticking together. Check that the paper you are using and your printing environment are within the specifications of the printer. See Appendix A, *Specifications*, for details.

Print Quality Problems

If your print quality is not what you expect it to be, check the problems and solutions listed in the following table.

Problem	Cause	Solution
Print is not clear	The paper you are using may not be supported by the printer.	Make sure you are using the recommended paper. See Appendix A, *Specifications*, for paper specifications.
	You may be printing on the wrong side of the paper.	Paper has a right side for printing. If the print quality is not as clear as you would like it to be, try turning the paper over and printing on the other side.
	You may be printing in HS mode.	Change to HQ mode. HS mode uses less ink than HQ mode and your print may look faint.
	The print head nozzles may be clogged.	Clean the print head; see page 79 for details.
Splashed dots	Print head nozzles may be clogged with ink.	Clean the print head; see page 79 for details.
Output appears jagged	The resolution selected via printer driver may be 180 dpi.	Check your software application to see what printing resolution you have selected.
		Printing at 180 dpi will give the output a jagged look. Changing the resolution to 360 dpi should correct this problem.
	Try using the Smoothing mode.	If you are printing double-height or double-width characters or graphics containing a lot of diagonal lines, use the Smoothing mode.

Problem	Cause	Solution
White streaks or missing dots	Print head nozzles may be clogged with dust.	Execute the quick cleaning of the print head (see page 79); then print a Nozzle pattern (see page 42). Repeat cleaning if necessary. If print quality is not recovered after executing the cleaning two or three times, execute the extensive cleaning procedure.
	The ink tank may be empty.	Open the front cover and check the contents of the ink tank. If there is not any liquid ink in the ink tank, replace it with a new one.
	BJ cartridge may be installed incorrectly.	Make sure the BJ cartridge and /or ink tank are installed correctly.
	The print medium being used may not be acceptable.	Use only print media specified in the *Selecting Paper Types* section on page 31.
	The resolution set in the printer driver may be 180 dpi (the print mode may be HS mode).	When printing in Epson LQ mode, printing at 180 dpi in HS mode may cause white streaks. To remedy, select the HQ mode with the printer's operator panel.
	The print head may be worn out.	The BJ cartridge may need to be replaced. Replace it with a new one.

Problem	Cause	Solution
Blurred or smudged ink	The selected print mode may not match your needs.	Select the print mode most suitable for your needs.
		When printing through the Canon BJ-30 printer driver for Windows, select the suitable print mode from the printer driver dialog box.
	The print medium being used may not be acceptable.	If your printout has ink-stained areas, try using Fine mode.
		Use only print media specified in *Selecting Paper Types* on page 31.
	You may be printing on the wrong side of the sheet.	Paper has a right side for printing. If the print quality is not as clear as you would like, try turning the paper over and printing on the other side.
Paper edge is soiled with ink	The platen in the printer may be soiled with ink.	Clean the platen with a soft cloth (see page 78).

Windows Problems

The following table contains problems and solutions related to using your printer with Windows applications.

Problem	Cause	Solution
Printer does not print or prints garbage	Cable connections may not be secure.	Check that the cable and power cord connections are secure.
	Printer may not be turned on.	Turn on the printer.
	Printer driver may not be set up.	Make sure the printer driver is properly installed and set up. See Chapter 4, *Using the Printer With Your Software*, for details.
	Print Manager may be causing the problem.	Check Print Manager for stalled print jobs caused by printer not being ready to accept data. Delete all stalled jobs, make sure the printer is on-line, and try to print again. If errors continue, turn off the Print Manager.
Cannot print from file menu	Printer may not be securely connected to the computer.	Check that the printer is correctly connected to the computer and that it is turned on. If the problem still exists, follow these steps: 1. Open the Printers icon, which is located in the Control Panel. 2. Select the Canon BJ-30 printer as the default printer by double-clicking on its name. 3. If the Canon BJ-30 does not appear as the default printer, click on the Connect button. 4. Make sure the correct port is selected and choose OK. 5. Double-click on the Canon BJ-30 name again.

Problem	Cause	Solution
Printer does not print from Windows (but does print from MS-DOS)	Your computer is having a problem communicating with the printer.	Follow these steps: 1. Select the Main group from the Program Manager. 2. Double-click on the Control Panel. 3. Double-click on the Printers icon. 4. Select the BJ-30. 5. Click on Connect. 6. Click on the box next to Fast Printing Direct to Port to remove the X. 7. Click on OK. 8. Click on Close. 9. Close the Control Panel. 10. Try your print operation again. If the problem persists, go back to step 5 (above) and change the connection from LPT1 to LPT1.DOS.
Output is not as expected	Printer driver may not be correct.	Make sure you have selected the Canon BJ-30 setting in the Printers dialog box or from the printer setting for your particular application.
Fonts do not print as smoothly rounded characters	Bitmapped fonts designed for dot matrix printers do not print smoothly rounded characters when used with high resolution printers like the BJ-30.	Make sure you installed an outline font manager, such as Adobe Type Manager or Bitstream Facelift, or that you are choosing a TrueType font.
	Certain MS fonts, such as MS Serif, will print jagged.	Choose another font.

Problem	Cause	Solution
Extra characters appear on the page	Print Manager may be causing problems.	Disable the Print Manager. If the image prints correctly with the Print Manager disabled, but you want to use the Print Manager to print in Windows, try the following: 1. Minimize all the current Windows applications; including the Program Manager. 2. Click on Print Manager; a dialog box appears. 3. Select Close. 4. Double-click on the Program Manager. 5. Select the Window option from the Program Manager's menu bar. 6. Select the Main group from the Program Manager. 7. Double-click on the Control Panel. 8. Double-click on the Printers icon. 9. Click on the box next to the Print Manager to add an X; this turns on the Print Manager. 10. Select the Canon BJ-30. 11. Select Connect. 12. Change the Timeouts value in Device Not Selected from 15 to 30 seconds. 13. Change the Timeouts value in Transmission Retry from 45 to 90 seconds.

Problem	Cause	Solution
Cannot print file sent from remote computer	Software may not be configured correctly.	Check that all software is correctly configured for the network environment. For example, with a Novell network, you must include the Capture statement. Refer to the user's manuals supplied with your networking software for more information.
Large gaps appear between text or graphics	Check that the video driver is VGA.	Choose the Main group icon in the Program Manager and open the Windows Setup icon. If the display driver is anything other than VGA, call the display manufacturer and request an updated display driver. In the meantime, install the standard VGA driver that came with Windows 3.1.
	Automatic line feed may be enabled.	Make sure automatic line feed is disabled through the FUNCTION settings. See Chapter 8, *Customizing the Printer*, for details.
When printing large characters (above 48 pt), text is missing (for example, THE prints as T E)	The video resolution is set too high.	Lower the video resolution to 640 x 480.
	There may be a problem with the video driver itself.	Make sure Video is set to VGA in Windows Setup.

Problem	Cause	Solution
In WordPerfect, the BOX prints but the text does not	The Fast Graphic Printing option needs to be enabled (5.2) or disabled (5.1).	If you are in WordPerfect 5.1 for Windows and the BOX prints but your text does not print, follow these steps: 1. Select File. 2. Select Preferences. 3. Uncheck the Fast Graphic Printing option for the Windows Printer Driver. If you are in WordPerfect 5.2 for Windows, and the BOX prints but your text does not print, follow these steps: 1. Select File. 2. Select Preferences. 3. Check the Fast Graphic Printing option for the Windows Printer Driver.
Multiple copies do not print	Your application does not support multiple copies.	Contact the software vendor.

Problem	Cause	Solution
Print Manager problems occur	The drive that contains the TEMP directory may not have enough available space.	Canon recommends that the drive have from 5 MB to 10 MB available. To verify a proper TEMP statement, follow these steps: 1. Exit Windows and go to the MS-DOS prompt. 2. Type `SET` at the MS-DOS prompt. A list of statements should appear; look for the statement that says `TEMP = C:\WINDOWS`. 3. If the statement exists, verify that the directory exists by typing in the drive and directory location with the DIR command. For example: `DIR C:\WINDOWS` 4. If the `FILE NOT FOUND` message appears, then one of the following has occurred: ❑ You may have typed the path incorrectly; make sure the path is correct. ❑ The directory does not exist; edit the AUTOEXEC.BAT file and change the directory to a valid directory; for example: `SET TEMP = C:\DOS`

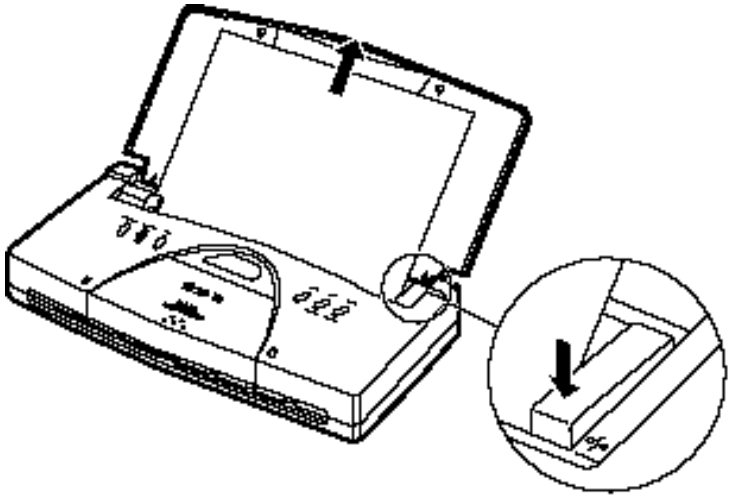
Clearing Paper Jams

When a paper jam occurs, the printer sounds a short buzzer twice, and alternately displays E and 2. The printer goes off-line. Clear the paper jam as follows:

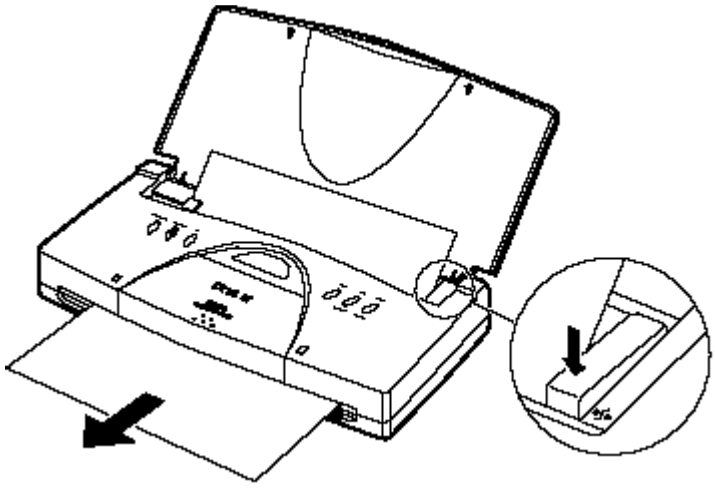
1. **Remove the stack of paper from the paper support.**

2. **Gently pull the paper out with one hand while holding the printer in place with the other hand.**

   - ❑ If the leading edge of the jammed sheet of paper has not yet emerged from the exit slot, pull the paper out from the sheet feeder while pressing down on the button on the right side of the sheet feeder.



   - ❑ If the leading edge of the jammed sheet is coming out of the paper exit slot, pull the paper out carefully from the paper exit slot.



3. **If the paper tears off inside the printer, open the front cover and carefully remove the remaining paper.**

   ❏ Take care not to touch the film cable.

   ❏ If necessary, turn off the printer.

4. **Press the ON LINE button to set the printer back on-line.**



If the platen is soiled after a paper jam, the back of your printed page will be smeared. Clean the platen as described in *Cleaning the Printer* on page 77.

If you are having repeated paper jams, you may be loading the paper improperly, or using the wrong kind of paper.

❏ When you load a stack of plain paper, fan the stack of paper before loading it in the sheet feeder. This will keep the sheets of paper from sticking together.

❏ Make sure that the paper you are using matches the paper specifications for this printer, and that the operating environment is within the proper range. See Appendix A, *Specifications*, for details.

Chapter 8
Customizing the Printer

This chapter describes the factory default settings of the printer and the steps you follow to customize these settings for your particular printing needs.

You will find that the factory default settings provide features to meet most of your printing needs. With these settings, your printer emulates any Canon Bubble Jet printer and the IBM Proprinter X24E printer. This means you can use the printer with any software application that supports these printers.

Make sure the printer's settings match the requirements of your software application. If you have a unique printing requirement, you can customize the printer by changing the FUNCTION settings as described in this chapter.

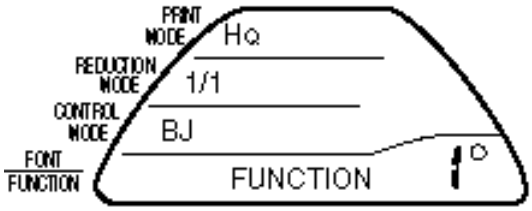
Changing the FUNCTION Settings

Follow these steps to change the FUNCTION settings:

1. **Press the MENU button once.**

   ❑ The printer beeps once when it enters Menu mode.

2. **Press the MENU button four more times. The display will look similar to this:**



3. **Press the ⇨ button as many times as necessary to bring the number corresponding to the FUNCTION you wish to change into the display.**

   ❑ If you hold the button down, the function numbers advance automatically. Numbers range from 1 to 19 and then 1A in each printer control mode, BJ mode and Epson LQ mode.

4. **Press the ❍/● button.**

   ❑ This causes either a ● or a ❍ to appear.

   ❑ Select ● to set the FUNCTION setting to ON and ❍ to set it to OFF.

5. **Press the ON LINE button.**

   ❑ The ON LINE light comes on.

   ❑ The printer is ready to print with the new settings.

Verifying the Current Settings

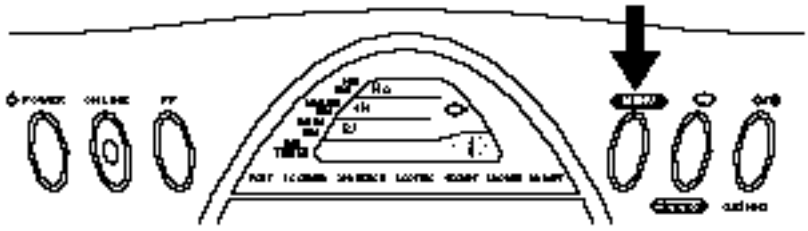
You can print out the printer settings in each printer control mode. This is an easy way to check the settings.

To print a listing of the current printer settings, follow these steps:

1. **Make sure that paper is loaded in the sheet feeder.**

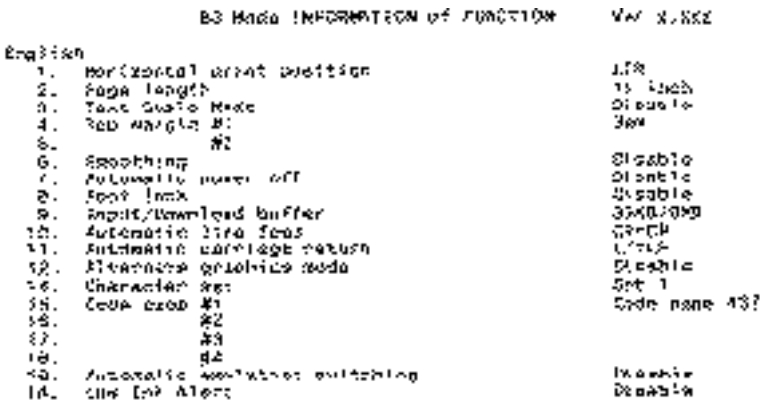
2. **Press and hold the MENU button until the printer beeps twice.**

   ❑ The word FONT disappears and the number 1 blinks in the display.



3. **Press the MENU button.**

   ❑ A printout of the current printer settings is produced. When printing is complete, the printer returns on-line.

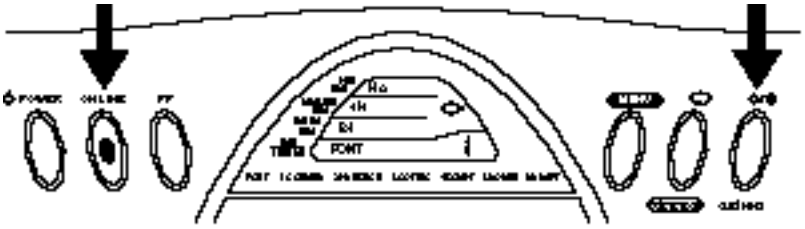


Returning All Settings to Their Factory Defaults

You can return the printer's settings to their factory defaults at any time. Follow these steps:

1. **Make sure that the printer's power is on.**

2. **Press and hold down both the ON LINE and CLEANING buttons until the printer beeps.**



- ❏ All items in the display appear for a moment the same way as when you turned on the printer.

- ❏ Then the printer's settings return to their factory default settings, and the printer returns on-line.

Factory Default Settings

The following table shows the factory default settings of the printer:

Function	Setting
Printer control mode*	BJ mode
Character pitch	10 characters per inch (cpi)
Line spacing	6 lines per inch (lpi)
Beeper	Enabled
Automatic line feed (LF)	Disabled (no LF with carriage return)
Slashed zero	Disabled (zero not slashed)
Vertical tab stops	No vertical tab set
Horizontal tab stops	Column 9 (then every 8th column)
Vertical margins	Top margin = first print line Bottom margin = page length
First print line**	0.12 inch (3 mm)
Page length**	11 inches (279 mm)
Horizontal margins	Left margin = 0 Right margin = maximum print width; 8 inches (203.2 mm)
Horizontal print position**	Letter 0.26 inch (6.4 mm)
Print direction	Bidirectional
Print quality*	High quality (HQ mode)
Print media	Plain paper
Font typeface*	Courier
Character set*	Character Set 1
Alternate Graphics Mode**	Disabled
Code Page**	437—IBM USA
Buffer**	Input: 35 KB Download: 0 KB
Text scale mode**	Disabled
Reduction mode**	Disabled
Smoothing mode**	Disabled
Automatic emulation switching mode**	Disabled
Automatic power off**	Disabled
Font typeface lock mode**	Disabled
Low ink warning**	Disabled

Note

The default printer control mode is Canon BJ mode. If you change this to Epson LQ mode, the default settings also change.

In Epson LQ mode, the following default settings are added or changed:

Function	Setting
First print line**	0.33 inch (8.5 mm)
Character set**	Epson Graphics
International character set**	USA
Buffer**	Input: 26 KB Download: 0 KB

* You can change these settings using the operator panel. See Chapter 5, *Using the Operator Panel*.

** You can change these settings using the FUNCTION settings described in the rest of this chapter.

FUNCTION Settings

The FUNCTION settings control various printer functions, such as the page length and character set you want to use. The printer functions defined by the FUNCTION settings are determined by the printer control mode. The printer has three control modes:

- ❏ BJ mode, which emulates the IBM Proprinter X24E
- ❏ Epson LQ mode, which emulates the Epson LQ printers
- ❏ Canon Extended mode, which is used in the Canon Windows driver and with some MS-DOS applications

Note

In Canon Extended mode, the printer overrides the FUNCTION settings. Thus, when you are printing through the Windows environment, you can ignore the information regarding FUNCTION and default settings.

BJ Mode

When the printer is in BJ mode, you use the FUNCTION settings to control the printer:

Function	Description	OFF	ON
1	Horizontal print position	Letter size or envelope	A4 size
2	Page length	11 inches	12 inches
3	Text scale mode	Disabled	Enabled
4-5	Top margin	See following descriptions	
6	Smoothing mode	360 dpi	720 dpi
7	Automatic power off mode	Disabled	Enabled
8	Font typeface lock mode	Disabled	Enabled
9	Input/download buffer	35 KB/0 KB	3 KB/32 KB
10	Automatic line feed (LF)	Carriage return (CR) only	CR with LF
11	Automatic carriage return (CR)	Line feed (LF) only	LF with CR
12	Alternate Graphics Mode (AGM)	Disabled	Enabled
13	Not used		
14	Character set	Set 1	Set 2
15-18	Code page	See following descriptions	
19	Automatic emulation switching mode	Disabled	Enabled
1A	Low ink warning	Disabled	Enabled

FUNCTION 1: Horizontal print position
Use this FUNCTION setting to change the horizontal print position according to the size of your paper. If you are using letter-size paper or envelopes, set this FUNCTION to OFF; the left margin will be 0.25 inch (6.4 mm). If you are using A4-size paper, set this FUNCTION to ON; the left margin will be 0.13 inch (3.4 mm).

FUNCTION 2: Page length
If you are using letter-size paper, set this FUNCTION to OFF; this sets the page length to 11 inches. If you are using A4-size paper, set this FUNCTION to ON; this sets the page length to 12 inches.

FUNCTION 3: Text scale mode
This setting determines how many lines fit onto a page by adjusting the line spacing. If you are using a software application that assumes 66 lines will fit on each page, set this FUNCTION to ON. The printer will reduce the line spacing by a factor of 62/66, which is from 62 lines per page to 66 lines per page if line spacing is set to 6 lines per inch (lpi).

FUNCTION 4, 5: Top margin
Use these functions to set the size of the top margin. Once selected, this setting takes effect when the next sheet of paper is fed.

The default setting is 0.12 inch (3 mm) because the default printer control mode is BJ mode. When you change the control mode to Epson LQ mode, the top margin will be changed to 0.33 inch (8.5 mm).

FUNCTION 6: Smoothing mode
Set this FUNCTION to ON to enable the Smoothing mode, which is used with the BC-10 Black BJ cartridge only. When Smoothing is enabled, the printer refines your printout by polishing away the jagged edges and ragged stair-stepping curves of characters and graphics. This results in sharp and crisp printout at 720 (horizontal) by 360 (vertical) dots per inch.



When to set FUNCTION 6 to ON
Enable Smoothing mode when printing from MS-DOS applications with the BC-10 Black BJ cartridge using the printer's internal fonts. Smoothing is especially effective for printing double height, double width, italic characters, and combinations of these characters.

FUNCTION 7: Automatic power off mode
The printer is idle when it receives no data and no instructions from the operator panel. This FUNCTION setting allows you to configure your printer to turn itself off automatically if it is continuously idle for 30 minutes. This function is a convenient way to maximize battery life. The factory default is Disabled.

FUNCTION 8: Font typeface lock mode
This function is called the Font typeface lock feature. It determines whether the font selected from the operator panel may be overridden by a DOS software application. The factory default is Disabled.

When you set this FUNCTION to OFF, the fonts specified by your software applications are used at print time. Set this FUNCTION to ON when you want the fonts specified through the operator panel to take precedence over the font selections made by your software application.

FUNCTION 9: Input/download buffer
This function controls the size of the input and download buffers. The amount of memory reserved for the data input and download buffers is 35 KB in BJ mode and 26 KB in Epson LQ mode. This function specifies whether to use this memory exclusively as an input buffer, or to split it between an input buffer and a download buffer. The factory default setting specifies that the memory is used exclusively as an input buffer.

When you set this FUNCTION to OFF, memory reserved for the input and download buffers is used exclusively as an input buffer. No download buffer is maintained under these conditions.

Set this FUNCTION to ON when you want some memory to be used as a download buffer. Of the total amount of memory reserved for the input and download buffers, 3 KB is allocated for an input buffer and the remainder is used as a download buffer.

FUNCTION 10: Automatic line feed (LF)
Use this FUNCTION to determine the type of carriage return. When this FUNCTION is OFF, the printer performs a normal carriage return (CR only). When this FUNCTION is ON, the printer follows each carriage return with a line feed (CR + LF).

FUNCTION 11: Automatic carriage return (CR)
When this setting is OFF, the printer performs a normal line feed (LF only). Set this FUNCTION to ON if you want the printer to perform a carriage return after each line feed (LF + CR).

FUNCTION 12: Alternate graphics mode (AGM)
Set this FUNCTION to ON to enable Alternate Graphics Mode (AGM). In this mode, the printer accepts high-resolution, 24-dot, all-points-addressable (APA) graphics commands similar to those used with conventional 24-pin printers.

FUNCTION 14: Character set
When this setting is OFF, the printer uses Character Set 1. When this setting is ON, the printer uses Character Set 2.

FUNCTION 15, 16, 17, 18: Code page
These FUNCTIONs allow you to select the following code page tables.

	FUNCTION Settings			
Code page/Character set	**15**	**16**	**17**	**18**
437 USA, English	OFF	OFF	OFF	OFF
850 Multilingual (Latin I)	OFF	OFF	OFF	ON
863 French Canadian	OFF	OFF	ON	OFF
865 Norwegian	OFF	OFF	ON	ON
860 Portuguese	OFF	ON	OFF	OFF
857 Turkish	OFF	ON	OFF	ON
855 Cyrillic	OFF	ON	ON	OFF
852 Slavic (Latin II)	OFF	ON	ON	ON
864 Arabic	ON	OFF	OFF	OFF
869 Greek	ON	OFF	OFF	ON

When you select combinations of FUNCTION settings not included in the list above, the printer automatically uses the 437 USA, English code page.

To see samples of the character sets available with each code page table, use Canon's toll-free fax retrieval system to request the *BJ-30 Printer Command Summary*.

FUNCTION 19: Automatic emulation switching mode
Set this FUNCTION to ON to enable Automatic emulation switching mode. In this mode, the printer detects whether the codes being sent are BJ mode or Epson LQ mode. It then selects the printer's Control mode to match the printer driver selected in the MS-DOS application.

When FUNCTION 19 is OFF, the printer's Control mode is set by the operator panel.

Automatic emulation mode is applicable for MS-DOS applications only. When you are using Windows, the BJ-30 printer driver for Windows selects the appropriate control mode regardless of the FUNCTION settings.



- If the printer does not seem to be switching between BJ mode and Epson LQ mode, disable this FUNCTION and set the operator panel to match your application's printer driver.
- If you are using a printer switching device, you must allow at least ten seconds for the printer to recognize an emulation change. If your printer switching device switches data in less than ten seconds, automatic emulation switching will not function properly.

FUNCTION 1A: Low ink warning
Set this FUNCTION to ON to enable the Low ink warning. When the Low ink warning is on, you can set the printer's ink gauge each time you install a new ink tank. Then the printer will notify you when the ink tanks begins to turn low on ink. See page 73 for details.

Epson LQ Mode

When the printer is in Epson LQ mode, you can use these FUNCTION settings to control the printer:

FUNCTION	Description	OFF	ON
1	Horizontal print position	Letter size or envelope (see page 124)	A4 size
2	Not used		
3	Text scale mode	Disabled (see page 125)	Enabled
4-5	Top margin	See page 125	
6	Smoothing mode	360 dpi (see page 125)	720 dpi
7	Automatic power off	Disabled (see page 125)	Enabled
8	Font typeface lock mode	Disabled (see page 125)	Enabled
9	Input / download buffer	26 KB / 0 KB (see page 125)	3 KB / 23 KB
10	Automatic line feed (LF)	Carriage return (CR) only (see page 126)	CR with LF
11-13	International character set	See following descriptions	
14	Character set	Italics	Graphics
15-18	Code page	See page 126	
19	Automatic emulation switching mode	Disabled (see page 127)	Enabled
1A	Low ink warning	Disabled (see page 127)	Enabled

FUNCTIONs 11, 12, 13: International character set
These FUNCTION settings allow you to select one of eight international character sets. These character sets provide you with the characters and symbols used in other languages.

	FUNCTION Settings		
Character set	**11**	**12**	**13**
USA	OFF	OFF	OFF
United Kingdom	OFF	OFF	ON
Germany	OFF	ON	OFF
France	OFF	ON	ON
Denmark	ON	OFF	OFF
Sweden	ON	OFF	ON
Italy	ON	ON	OFF
Spain	ON	ON	ON

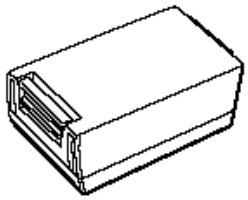
FUNCTION 14: Character set
When this FUNCTION is OFF, which is the default factory setting, the printer uses the Epson Italics character set, which includes italic characters. When this FUNCTION is ON, the printer uses the Epson Graphics character set, which is the same as the MS-DOS code page 437 (this character set includes symbols, lines, corners, and European characters).

To see samples of the character sets available in Epson LQ mode, use Canon's toll-free fax retrieval system to request the *BJ-30 Printer Command Summary*.

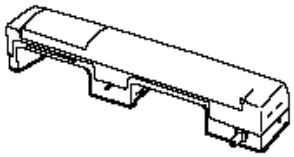
Chapter 9
Installing and Using the Battery Pack

This chapter describes how to install and use the battery pack that comes with the Canon Portable Kit NK-300. You can purchase the Portable Kit as an option for your BJ-30 Bubble Jet Printer. You can also purchase additional battery packs (NiMH Battery Pack NB-300) to use with the Portable Kit.

The Portable Kit, which allows you to operate the printer where AC power is not available, includes the following:



NiMH BATTERY PACK NB-300



BATTERY CASE

Follow these guidelines to avoid damage to your printer or battery pack, and harm to you or others:

- ❑ Before using a new battery pack, charge it as described later in this chapter.
- ❑ Use only the Canon NB-300 rechargeable battery pack with the BJ-30.
- ❑ Do not attempt to disassemble a battery pack or the battery case.
- ❑ Follow local regulations when disposing of a used battery pack.
- ❑ Do not dispose of a battery pack where it may come in contact with fire.
- ❑ Keep foreign objects out of the battery compartment.
- ❑ Do not allow metal objects to touch the power connector on the battery case or the terminals on the battery pack.
- ❑ Make sure the paper support is closed when you are not using the printer. This turns off the battery switch.
- ❑ Recharge the battery pack only when it is fully discharged. Charging it before it is fully discharged reduces the battery capacity.
- ❑ Remove the battery pack when you are storing the printer.

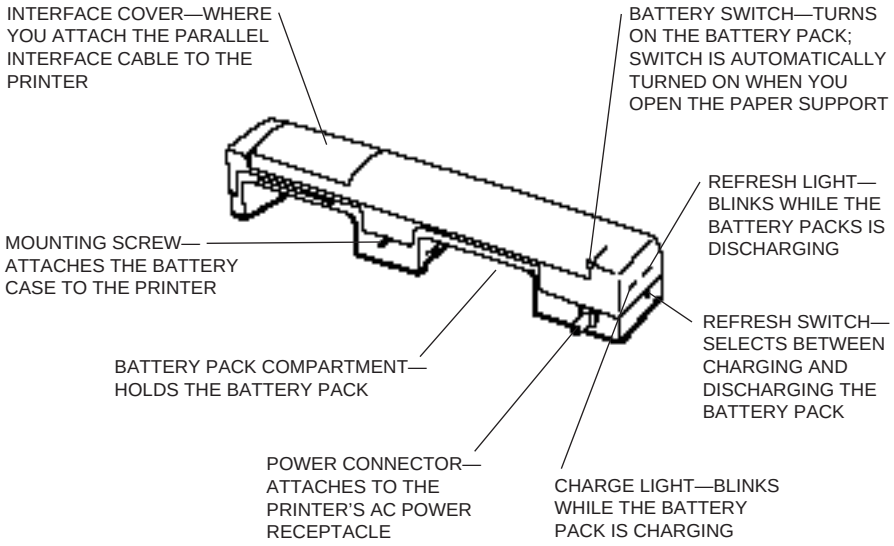
Caution

Always turn off the printer before unplugging the AC adapter or closing the paper support—this allows the print head to return to the home position and prevents it from drying out.

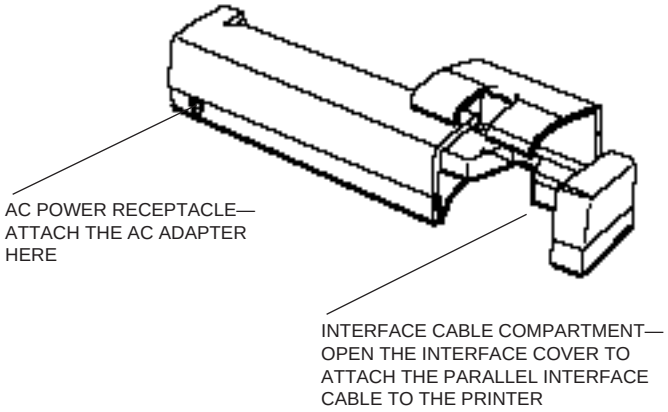
Examining the Battery Case

Examine the battery case before you attempt to install it.

From the Front



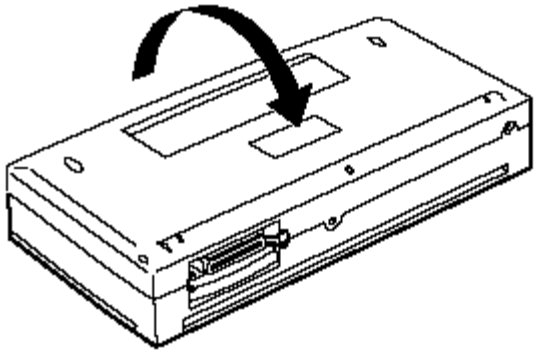
From the Back



Attaching the Battery Case to the Printer

Follow these steps to attach the battery case to the printer:

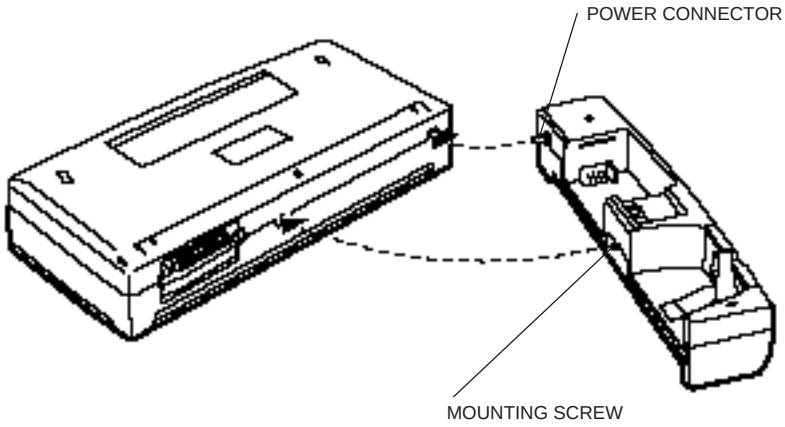
1. **Make sure the printer is turned off and close the paper support.**
2. **Remove the AC adapter and the interface cable from the printer.**
3. **Turn the printer over so the bottom of the printer is facing up.**



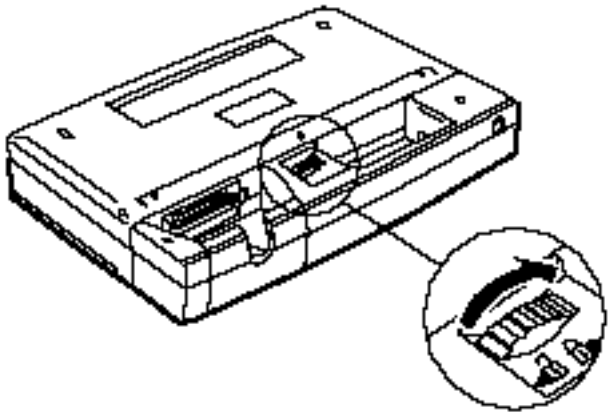
4. **With the battery and interface cable compartments facing up, connect the battery case to the printer.**

   ❏ Fit the power connector on the battery case into the AC adapter receptacle on the printer.

   ❏ Fit the mounting screw on the battery case into its opening on the back of the printer.

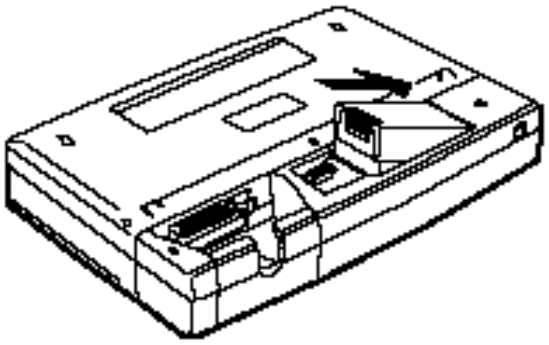


5. **Fasten the battery case to the printer by turning the thumbwheel to the right (toward the mark).**



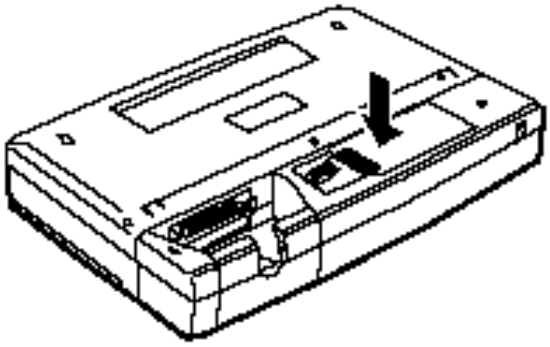
6. **Insert the battery pack into the battery pack compartment.**

   ❑ The tab on the upper right side of the battery fits into the slot on the upper right side of the compartment.

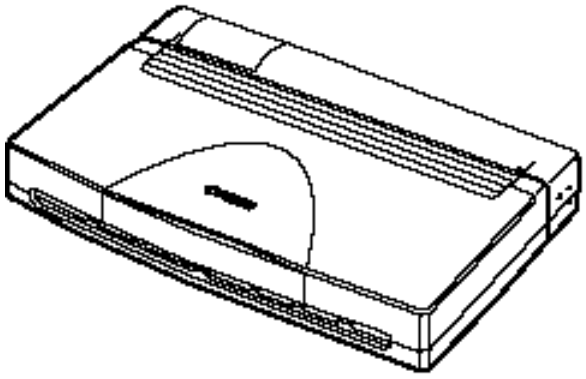


7. **With the battery case towards you, press down on the left side of the battery pack until it clicks into place.**

   ❑ On the left side of the battery pack is a latch that clicks into place.



8. **Turn the printer over and set it in the upright position.**



Charging the Battery Pack

To charge the battery pack, you attach the AC adapter to the battery case. When the AC adapter is connected, the battery pack charges whenever the printer is idle (whether or not it is turned on).

Note

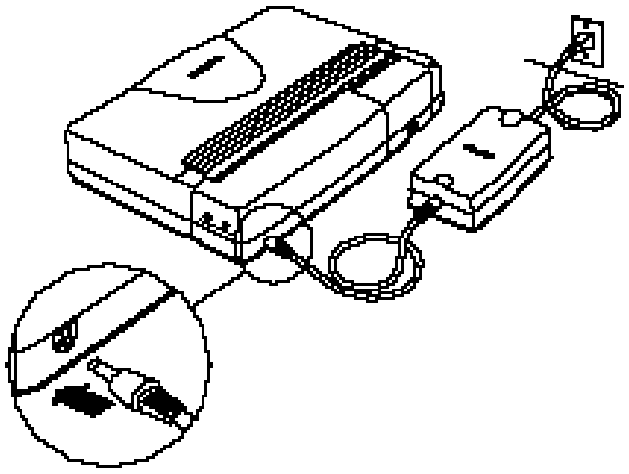
Always charge a new battery pack. A new battery pack is not charged.

It takes approximately 10 hours to charge a new battery or a fully discharged battery.

With a fully charged battery pack, you may be able to print up to 180 pages (1500 characters / page) without the use of AC power. The actual printing time depends on the complexity of the data you are printing.

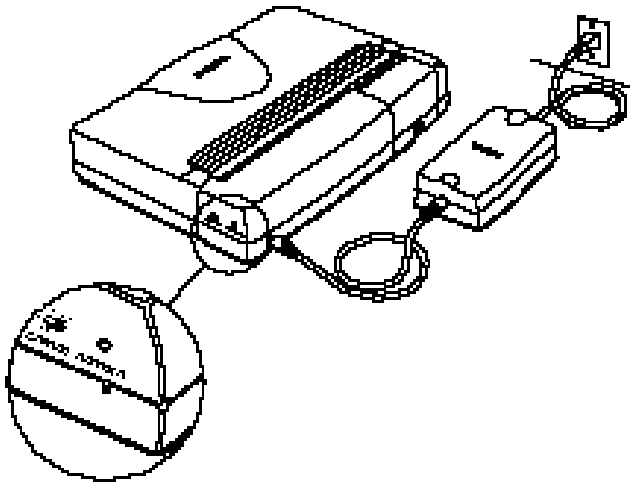
To charge a battery pack, follow these steps:

1. **Attach the connector end of the AC adapter into the AC power receptacle on the back of the battery case.**



2. **Plug the other end of the AC adapter into an electrical outlet.**

   ❑ The CHARGE light blinks as the battery pack charges.



When the battery is fully charged, the CHARGE light turns off.

Using the Printer With the Battery Pack

To print using the battery pack, follow these steps:

1. **Disconnect the AC adapter from the battery case.**

   ❏ If the AC adapter is connected, the printer will not print.

2. **Attach the parallel connector to connect the printer to the host computer.**

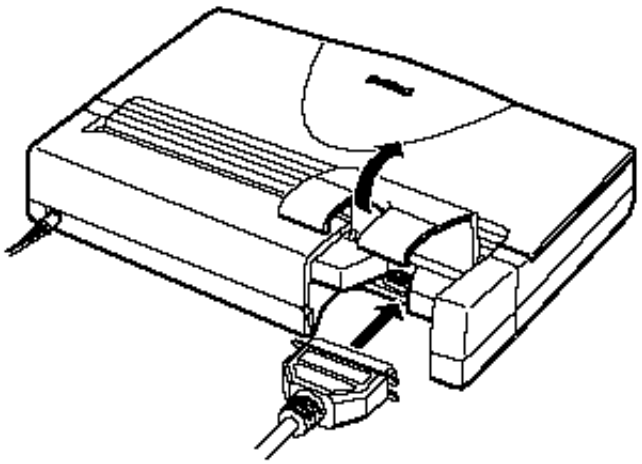
   ❏ Open the interface cover and connect the parallel cable.

   ❏ Align the cable connector with the printer's interface port so the shapes match.

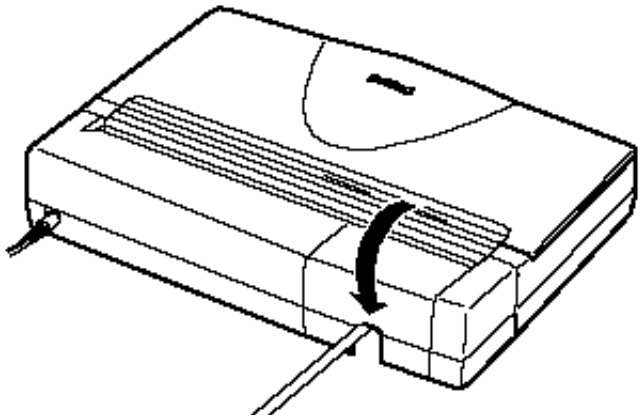
   ❏ Lift the back of the battery case and printer if necessary.

   ❏ Gently press the cable connector into the port.

   ❏ Secure the cable connector by snapping the two wire clips (located on the printer) into the cable connector.

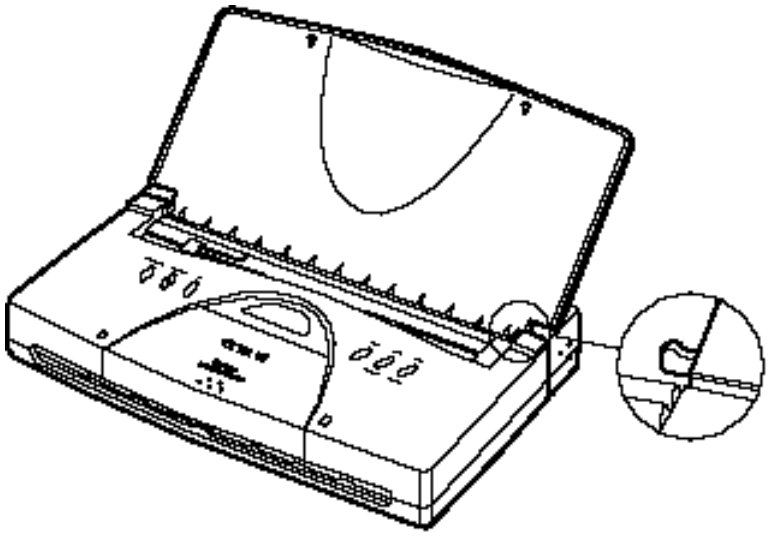


3. Close the interface cover.



4. Open the paper support.

- ❑ This turns on the battery switch so the printer can receive power from the battery pack.



5. Start your print operations.

When not printing, close the paper support. When the paper support is open, the battery switch is turned on and the printer is receiving power from the battery pack.

Battery Pack Capacity

With a fully charged battery pack, you may be able to print up to 180 pages without the use of AC power. The actual printing time depends on the complexity of the data you are printing.

Printing With a Low Battery

When you are using the battery pack and the battery starts to run low, the printer beeps twice, displays C and 5 alternately, and stops printing. You can press **ON LINE** to continue printing. After printing a few more sheets, the printer will stop again. You can press **ON LINE** to continue several times. When you finish printing, turn off the power.

When the battery becomes completely discharged, the printer beeps for about five seconds, displays F and C alternately, and stops printing. Any data that has not printed is lost. Press the **POWER** button to turn off the printer.

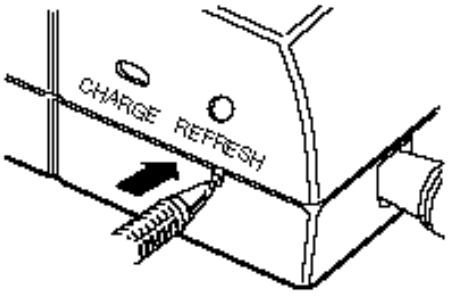
To continue printing, make sure the printer is turned off and attach the AC adapter to supply power.

Discharging the Battery Pack

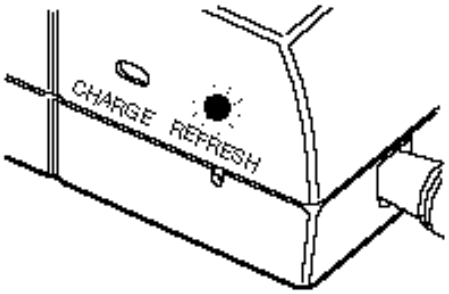
It's a good idea to let the battery pack completely discharge before you charge it. This will optimize the charge capacity of the battery pack.

If you notice that the printer is printing fewer pages with a full charge, you can initiate a complete discharge process. Follow these steps:

1. **Make sure the battery pack is installed in the battery case.**
2. **Make sure the AC adapter is attached.**
3. **Using a pointed object, such as a ballpoint pen, press the REFRESH switch.**



- ❑ The REFRESH light blinks during the discharge process. This process takes about 10 hours.



When the battery pack is completely discharged, the CHARGE light begins blinking as the battery pack automatically starts recharging.

Note

You can use the printer while the battery pack is discharging.

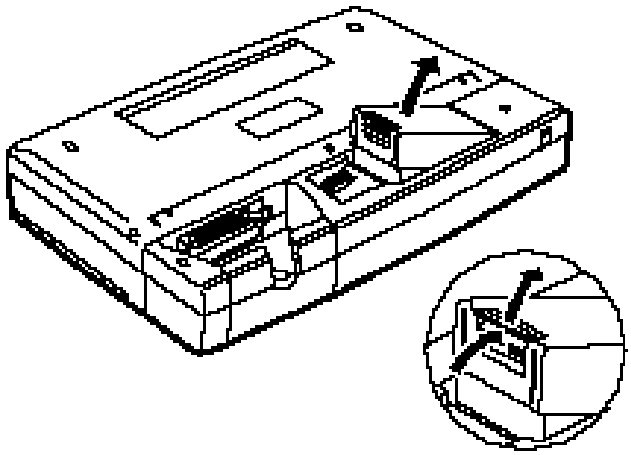
Removing a Battery Pack

Note

Make sure you have completed your current printing job as removing the battery pack erases all data in the printer's memory.

Follow these steps to remove the battery pack:

1. **Turn the printer upside down.**
2. **Press in on the battery pack latch and lift up on the battery pack.**



3. **Lift the battery pack out of the battery compartment.**

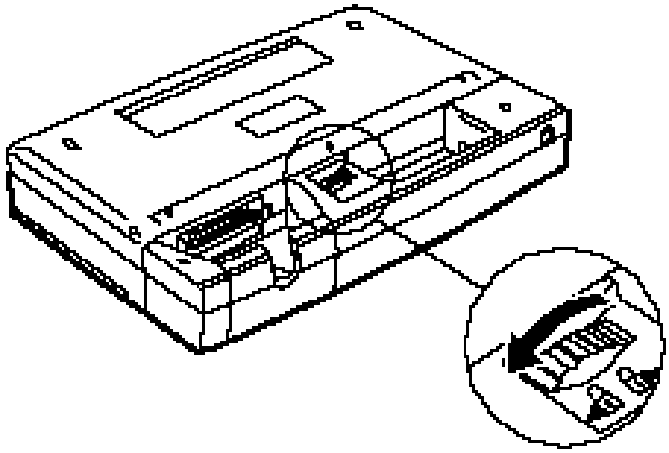
You can now install another fully charged battery pack or remove the battery case from the printer.

Removing the Battery Case

To remove the battery case, follow these steps:

1. **Make sure the printer is turned off and the paper support is closed.**
2. **Make sure the AC adapter and the parallel interface cable are disconnected.**
3. **Turn the printer upside down.**

4. **Turn the thumbwheel to the left (toward the mark) to loosen the battery case from the printer.**



5. **Disconnect the battery case from the printer.**

Appendix A
Specifications

This appendix lists the specifications of your printer.

Printing Method
Bubble jet ink on-demand

Paper Handling
Automatic feed

Sheet Feeder Capacity
Maximum thickness of stacked paper: 0.12 in (3 mm)

Plain paper	Approximately 30 sheets (20 lb or 75 g/m^2)
Legal-size paper	1 sheet
Transparencies	10 sheets
Back Print Film	10 sheets
Envelopes	5 envelopes (U.S. Commercial number 10 or European DL)

Paper Size
Letter (8.5 in × 11 in)
Legal (8.5 in × 14 in)
A4 (210 mm × 297 mm)
U.S. Commercial number 10 envelope (9.5 in × 4.1 in)
European DL envelope (220 mm × 110 mm)

Paper Type
Plain paper
OHP film (Canon Transparencies CF-102)
BPF film (Canon Back Print Film BF-102)
Envelopes (Commercial number 10 or European DL)

Paper Weight
17 to 28 lb (64 to 105 g/m^2) with automatic feed

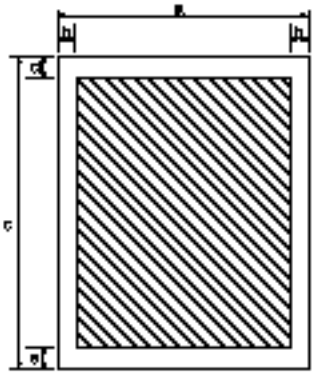
Print Speed
HQ mode: 173 cps at 10 cpi
HS mode: 277 cps at 10 cpi

Printing Direction
Bidirectional in text (both MS-DOS and Windows)
Unidirectional in Block Graphic Character
Unidirectional in image

Print Width
Maximum 8 inches (203.2 mm)

Line Feed Speed
Approximately 92 ms per line at 1/6-in line in HQ and HS mode

Printing Area—Papers
The shaded portion in the following figure shows the printing area for papers.



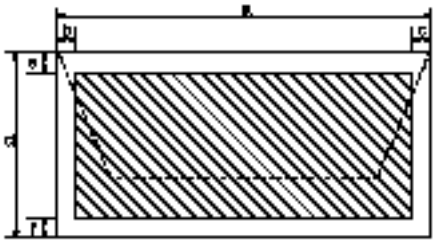
Recommended Printing Area:

Letter size	Legal size	A4 size
a 8.5 in	a 8.5 in	a 210 mm
b 0.25 in	b 0.25 in	b 3.4 mm
c 11.0 in	c 14.0 in	c 297 mm
d 0.87 in	d 0.87 in	d 22 mm
e 0.87 in	e 0.87 in	e 22 mm

Possible Printing Area:

Letter size	Legal size	A4 size
a 8.5 in	a 8.5 in	a 210 mm
b 0.25 in	b 0.25 in	b 3.4 mm
c 11.0 in	c 14.0 in	c 297 mm
d 0.12 in—BJ mode 0.39—Epson LQ mode	d 0.12 in—BJ mode 0.39—Epson LQ mode	d 3.0 mm 9.9 mm
e 0.12 in	e 0.12 in	e 3.0 mm

Printing Area—Envelopes
The shaded portion in the following figure shows the printing area for envelope.



Recommended Printing Area:

U.S. Commercial number 10		European DL	
a	9.5 in	a	220 mm
b	0.25 in	b	6.4 mm
c	1.2 in	c	10.4 mm
d	4.1 in	d	110 mm
e	0.87 in	e	22 mm
f	0.87 in	f	22 mm

Possible Printing Area:

U.S. Commercial number 10		European DL	
a	9.5 in	a	220 mm
b	0.25 in	b	6.4 mm
c	1.2 in	c	10.4 mm
d	4.1 in	d	110 mm
e	0.12 in	e	3.0 mm
f	0.12 in	f	3.0 mm

Resident Printer Control Modes

BJ mode	IBM Proprinter X24E emulation
Epson LQ mode	Epson LQ-2550 emulation
Canon Extended mode	

Line Feed Pitch

BJ mode	1/6”, 1/8”, *n*/60”, *n*/72”, *n*/180”, *n*/216”, and *n*/360”
Epson LQ mode	1/6”, 1/8”, *n*/180”, and *n*/360” (*n*: programmable)

Printing Characters

Typeface	Roman, Gothic, Courier, Prestige, Script, and Draft
Pitch	*BJ mode*—10, 12, 17 cpi, and PS *Epson LQ mode*—10, 12, 15, 17, 20 cpi, and PS
Cell Composition	36 (h) × 48 (v) dot matrix in HQ mode 18 out of 36 (h) × 48 (v) dot matrix in Economy mode
Character Set	*BJ mode*—IBM Character Sets 1 and 2 and All Characters Chart *Epson LQ mode*—Italics character set and Graphics character set Code Pages 437, 850, 852, 855, 857, 860, 863, 864, 865, and 869
TrueType Typefaces	American Text BT, Americana Bold BT, Broadway BT, Charter Black BT, Charter Black Italic BT, Charter BT, Charter Italic BT, Cloister Black BT, Cooper Black BT, Dom Casual BT, English 157 BT, Fraktur BT, Impress BT, Informal 011 BT, Poster Bodoni BT, Raleigh Demi Bold BT, Schadow Black Condensed BT, Seagull Heavy BT, Staccato 555 BT, UMBRA BT

Maximum Number of Characters per Line

BJ mode:

Mode	Pitch	Characters per line
10 cpi	10 cpi	80 cpl
10 cpi doublewide	5 cpi	40 cpl
10 cpi condensed	17 cpi	136 cpl
10 cpi condensed-doublewide	8.5 cpi	68 cpl
12 cpi	12 cpi	96 cpl
12 cpi doublewide	6 cpi	48 cpl
Proportional spacing	PS	Varies

Maximum Number of Characters per Line (continued)

Epson LQ mode:

Mode	Pitch	Characters per line
10 cpi	10 cpi	80 cpl
10 cpi doublewide	5 cpi	40 cpl
10 cpi condensed	17 cpi	136 cpl
10 cpi condensed-doublewide	8.5 cpi	68 cpl
12 cpi	12 cpi	96 cpl
12 cpi doublewide	6 cpi	48 cpl
12 cpi condensed	20 cpi	160 cpl
12 cpi condensed-doublewide	10 cpi	80 cpl
15 cpi	15 cpi	120 cpl
15 cpi doublewide	7.5 cpi	60 cpl
Proportional spacing	PS	Varies

Graphic Image Print

Data Format	Vertical 8, 24, and /or 48-dot format
Resolution	Horizontal 60, 120, 180, 240, or 360 dpi, and 720 dpi (720 dpi in Smoothing mode only)

Buffer

BJ mode	Input buffer:	35 KB (or 3 KB)
	Download buffer:	0 KB (or 32 KB)
LQ mode	Input buffer:	26 KB (or 3 KB)
	Download buffer:	0 KB (or 23 KB)

Buffer size in parenthesis = Automatic emulation switching mode

Interface

8-bit parallel

To receive information regarding the interface specifications, use Canon's toll-free fax retrieval system. Call the Canon fax retrieval system at 1-800-526-4345; then request the *BJ-30 Interface Specifications*.

BC-10 BJ Cartridge and BCI-10 Ink Tank

Print head	128 nozzles
Ink color	Black
Cartridge life	Approximately 3,000 pages (at 5% coverage)
Ink tank yield	Approximately 170 pages (at 5% coverage)
Ink contents	Isopropyl alcohol 67-63-0

Acoustic Noise Level Per ISO 9296
Under 45 dB(A)

Operating Environment

Temperature	41° F to 95° F (5° C to 35° C)
Humidity	10% to 90% RH (no condensation)

Storing Environment

Temperature	32° F to 95° F (0° C to 35° C)
Humidity	5% to 95% RH (no condensation)

Power Source

USA/Canada	AC 120 V, 60 Hz, 0.5A

Power Consumption
5 watts standby
30 watts maximum printing

Dimensions
11.8 in (300 mm) W × 6.2 in (157.5 mm) D × 2.2 in (57 mm) H

Weight
Approx. 3.1 lb (1.4 kg)

Portable Kit Specifications

NiMH Battery Pack

Size	3.6 x 1.98 x 1.32 in (90.3 x 49.6 x 33 mm)
Weight	270 g
Voltage	12 VDC
Maximum print capacity	Approximately 180 sheets (1500 characters/page)
Charging time	About 10 hours

Battery Case

Size	11.8 in (300 mm) W x 2.16 in (54.03 mm) D x 2.2 in (57 mm) H
Weight	220 g
Input voltage	13 VDC
Output voltage	13 VDC

Appendix B
Application Notes

This appendix contains information on using specific software applications with your Canon BJ-30 Bubble Jet Printer. Many popular applications are covered here. Although the software versions described may not be the latest, or may not be the version you have, the solutions presented may apply to other versions.

The information presented here represents Canon's answers to some frequently asked questions about using software packages with our printers. The information is presented in alphabetical order by software application.

Printing Envelopes in Microsoft Windows

AmiPro 3.0

To print envelopes in AmiPro 3.0, follow these steps:

1. From within AmiPro, select the Print envelope icon.
2. Select the number 10 envelope.
3. Click on OPTIONS.
4. Click on ADJUST.
5. Modify the margins as follows: Right 0.70 and Down 0.35.
6. Click on OK to leave The Print Envelope Adjustments window.
7. Click on OK to leave The Print Envelope Options window.
8. Click on OK to print the envelope.

Microsoft Publisher

Method 1

To print envelopes in Microsoft Publisher, follow these steps:

1. Start Microsoft Publisher.
2. Select and run the Envelope Page Wizard design assistant.
3. From the Envelope Page Wizard, select the options you want.
4. After the envelope has been created, delete the text box that says:

   `TIPS FOR PRINTING YOUR ENVELOPE`.
5. From the Edit menu, select All.
6. Click the group button to group the objects.
7. From the Edit menu, choose Copy objects.
8. From the File menu, choose New.
9. In the dialog box, select Start from scratch and Full page.
10. When prompted to save your changes, choose NO.
11. In the new document, from the Edit menu choose Paste objects.
12. Drag the group to a position 0.5 inch from the top of the page.
13. On the printer, move the paper selection lever to the envelope position; this is the front position.
14. On the printer, set the paper thickness lever to the envelope position; this is up.
15. Place the envelope in the sheet feeder (face up and top down).
16. Make sure the printer is on-line.
17. In Publisher, from the File Menu choose Page setup.
18. Under Orientation, select Portrait.
19. Under Paper, select Letter 8.5 x 11.
20. From the File menu, choose Print.
21. Click OK.

Method 2

To print envelopes in Microsoft Publisher, follow these steps:

1. Start the Windows Control Panel.
2. Double-click the printers icon.
3. Select the Canon BJ-30 Color Bubble Jet Printer.
4. Set up the following options on the printer: Portrait, Envelope, and Manual feed.
5. Choose OK.
6. Choose Set as default printer.
7. Choose Close.
8. Start Microsoft Publisher.
9. Select and run the Envelope Page Wizard design assistant.
10. From the Envelope Page Wizard, select the options you want.
11. **IMPORTANT**: Do not, at any time, choose Print setup from the File menu or from the Page setup. If you do, the printer driver resets Orientation to Landscape and will not allow you to change it back. If this happens, you must run the Page Wizard again.
12. Place the envelope in the sheet feeder (face up and top down).
13. Make sure the printer is on-line.
14. From the File menu, choose Print.
15. Click OK.

Microsoft Word for Windows

Microsoft Word 6.0 for Windows

To print on envelopes in Microsoft Word 6.0 for Windows, follow these steps:

1. Select Tools.
2. Select Envelopes and Labels.
3. Click on the Feed button.
4. In the feed method, select the first envelope from the left.
5. Click on the OK button.
6. Click on Print.

Microsoft Word 2.0 for Windows

If you are using Microsoft Word for Windows, version 2.0, and the Envelope Macro button in the button bar does not work, follow these steps to print envelopes correctly. First create the SetPrinterHeuristic dialog box:

1. Start Word for Windows 2.0 (if necessary).
2. From the top menu bar, choose File and then Open.
3. In the Open File dialog box, select Newmacro.doc (in the WINWORD directory) and choose OK.
4. When the Macro Name dialog box appears, select SetPrinterHeuristic and choose Install.
5. In the Install SetPrinterHeuristic to dialog box, select Normal from the Template list and then select Tools from the Menu list to place this option in the Tools menu.
6. Choose OK.
7. In the top menu bar, choose File and then Close.

The SetPrinterHeuristic menu choice now appears each time you select Tools from the top menu bar when you are using a normal template. To verify this, open a new document and select Tools from the menu bar. The SetPrinterHeuristic choice appears as the last selection of the Tools menu.

To print on envelopes, follow these steps:

1. Type your destination address within your document and then highlight it.

2. In the top menu bar, select Tools and then select SetPrinterHeuristic.

3. In the Envelope orientation box, select the Force Portrait button.

4. If you are printing multiple envelopes, check on the Avoid Using Device Capabilities for Paper Sizes box. An X appears in the box. Now choose OK.

   ❑ The Avoid Using Device Capabilities for Paper Sizes box affects all documents output to the printer. If you are not printing multiple envelopes, make sure this option is unchecked.

5. Make sure the printer is ready for printing envelopes.

6. From the button bar, choose the Envelope Macro button. The address appears in the Destination Address box.

7. Choose the Print button.

WordPerfect

WordPerfect 6.0

If you are using WordPerfect, version 6.0, you need to define your envelope size using the Envelope Macro Button. Follow these steps:

1. Click on the Envelope Macro.

2. Select Create New Definition.

3. Specify a Paper Name that you will recognize later; for example, BJENV.

4. For Paper Type, select Envelope.

5. For Paper Size, select #10 Env(9.5 x 4.1 inches).

6. For Paper Location, select Autosheet Feeder.

7. For Orientation, disable Rotated Fonts and enable Wide Form.

8. Click on OK to close the Create New Definition box.

9. Enter the Sender and Addressee information and then click the Print button.

10. WordPerfect displays the message: `Preparing Document for Printing`.

11. WordPerfect displays a warning; ignore this warning.

WordPerfect will now print your envelope.

You need not change the Page Layout or any other settings to accommodate envelopes.

WordPerfect 5.2

If you are using WordPerfect, version 5.2, follow these steps to print envelopes.

First time printing envelopes

If you are printing envelopes for the first time, follow these steps:

1. Choose the Envelope Macro from the Main Screen. If the macro is not displayed, go to View and then to the Button Bar Setup. Select FEATURES.WWB and follow the steps for displaying the macro.

2. The first time you choose the Envelope Macro using either the WordPerfect driver or the Windows driver, a prompt tells you that this paper size does not exist and asks if you want to add it.

3. Choose Add.

4. Select Portrait orientation and Continuous paper feed. You see the Envelope Editor screen.

5. Fill in the appropriate mailing address.

6. Make sure the box for Print Envelopes is checked and the Select Envelope Size is 9.5 x 4.12 inches.

7. You can also include a Return Address, change the margin settings, and/or change the font with which the envelope is printed. For Windows, the default font is a Windows font. You may want to select a TrueType font or another printer font.

8. After selecting all your options, choose OK. If you are using the Windows driver, you see this message:

   `Windows printer driver did not accept the requested paper size. Document will print on paper size the printer did select.`

9. Choose OK to print the envelope. If you are using the WordPerfect driver, no message appears and the printer prints the envelope.

Printing envelopes other than the first time

1. Choose the Envelope Macro from the Main Screen.
2. If you have set up the envelope size, go to Layout and choose Page.
3. Choose Paper Size. Make sure the size is 9.5 x 4.12 inches and the diagram shows the paper in wide format. If not, choose Edit and make the corrections.
4. Next, you see the Envelope Editor screen. Fill in the appropriate mailing address.
5. Make sure the box for Print Envelopes is checked and the Select Envelope Size is 9.5 x 4.12 inches.
6. You can also include a Return Address, change the margin settings, and/or change the font with which the envelope is printed. For Windows, the default font is a Windows font. You may want to select a TrueType font or another printer font.
7. After selecting all your options, choose OK. If you are using the Windows driver, you see this message:

   ```
   Windows printer driver did not accept the requested
   paper size. Document will print on paper size the
   printer did select.
   ```

8. Choose OK to print the envelope. If you are using the WordPerfect driver, no message appears and the printer prints the envelope.

Works 3.0 for Windows

To print envelopes in Works 3.0 for Windows, follow these steps:

1. Select Tools.
2. Select Envelopes and Labels.
3. Create your envelope.
4. Go to Page Setup.
5. Click on Source, Size, and Orientation.
6. Click on Reset.
7. Change the Paper Source to Auto Sheet Feeder.
8. Change the Paper Size to #10 Envelope (9.5 x 4.1).
9. Change the Orientation to Portrait.
10. Click on OK.

Glossary

A

AGM
Alternate Graphics Mode. Available in BJ mode for IBM Proprinter X24E emulation.

All modes pattern
One of the test patterns produced by the printer, all characters available in each of the different print pitch and style modes are printed.

Automatic emulation switching mode
A printer mode in which the printer automatically changes its control mode according to data sent from the computer. This function is active when FUNCTION 19 is ON.

Automatic feed
Refers to the way in which paper is fed into the printer when you use the built-in sheet feeder.

Automatic power off
A printer mode in which the printer automatically turns off if it is idle for 30 minutes. The printer is idle when no data is received and the operator panel is not operated. The function is active when FUNCTION 7 is ON.

B

Bidirectional printing
The ability of a printer to print both left to right and right to left. *See also* Unidirectional printing.

BJ cartridge
The printing mechanism that contains the print head unit and the ink tank.

BJ mode
The printer control mode in which the printer emulates the IBM Proprinter X24E. *See also* Epson LQ mode.

Bold
A characteristic of a printed character that indicates wider, darker representation. Also referred to as emphasized or double-strike printing.

Bubble Jet printer
An ink-jet type printer that heats the ink to a boiling point in a nozzle to form a bubble. When the bubble expands, there is no room left in the nozzle for the ink and the ink is projected onto paper.

Buffer
A temporary storage area in the printer's memory where data for output is held until it can be processed. *See also* Download buffer.

C

Canon extended mode
Canon's unique printer control mode used by specific application software to print on the printer.

Centronics
An interface standard for parallel data transmission. The interface on this printer is a Centronics-type parallel interface.

Character set
A complete collection of the characters and symbols that constitute all the elements of a language or discipline (mathematics, for example), including punctuation and numbers, with a one-to-one correspondence to the ASCII codes 00-7F (hexadecimal). The printer uses these characters to determine its printing and nonprinting activities after it receives data from the host computer.

Code page
A set of 256 graphic designs (characters) associated with unique code values from 0 through 255. Code Page 437 is USA and Code Page 850 is Multilingual.

Commercial number 10 (COM10)
A common letter-size of business envelope (9.5 x 4.1 inches) in the United States.

Condensed
A text print mode that produces a reduced character size (approximately 60% of the width of the original pitch). The printer can produce condensed text (17 cpi) for 10 cpi and condensed text (20 cpi) for 12 cpi.

Control code
Special data that invokes nonprinting functions of the printer, such as line feed or carriage return. In the ASCII chart, control codes are represented by decimal numbers 0-31, 127, 128, 159, and 255.

Courier
One of the fonts resident in this printer. Courier can be printed either fixed-space or proportionally spaced.

cpi
Characters per inch. A unit of measurement relevant to a fixed-space font. Because all characters have the same width, you can calculate the number of characters printed per inch.

cpl
Characters per line. A unit of measurement that indicates the number of characters printed per line.

cps
Characters per second. A unit of measurement that indicates the printer's speed.

D

dB(A)
Stands for decibel level (a decibel being a unit of measurement for the intensity of the sound coming from the printer), adjusted for background noise.

Dithering
A method by which dots are combined on a page to produce a wide spectrum of grayscales.

Double-high characters
Characters that are twice as tall as the default characters.

Double-strike
One way your printer produces bold characters. Using this method, dots are placed slightly above the dots previously printed to form a character, giving the character a thicker appearance. To use the double-strike feature, your application package must support it.

Double-wide characters
Characters that are twice as wide as the default characters. This results in half as many characters per inch.

Download buffer
An area of the printer's memory that holds downloaded font information. *See also* Buffer.

dpi
Dots per inch. A unit of measurement for indicating a printer's resolution. Your printer can produce a resolution up to 720 dpi, depending on the printer control mode and the application you are using.

E

Emphasized mode
One way your printer produces bold characters. Using this method, dots are placed slightly to the left of the dots previously printed to form a character, giving the character a thicker appearance.

Epson LQ mode
The printer control mode in which the printer emulates the Epson LQ-2550 printer. *See also* BJ mode.

ESCape sequences
Commands beginning with the ESCape character, which are used to control the printer. The nonprintable ESCape character is followed by a unique series of letters and numbers that provide instructions to the printer.

F

Fixed pitch spacing
Equal spacing for each character of the same typeface. In printing a fixed pitch font, each character, whether narrow or wide, takes up the same amount of space.

Fixed space font
A font in which all characters take up the same amount of space. An *i* takes as much space as a *w*.

Font
A complete set of characters of the same size and style; a particular implementation of a typeface. For example, 12-point, Courier bold.

Form feed
A printer function that automatically ejects the current page and advances the printer to the top of the next page. On this printer, the **FF** button ejects the current page, but does not advance the next sheet.

G

Grayscale
Representing color in black and white as a result of different intensities of color. Different colors and intensities of colors appear as different shades of gray.

H

Halftone
Using this method, the printer produces shades of gray by mapping dots to be printed.

Hexadecimal
Numbers represented to the base 16 (using digits 0 through 9 and A, B, C, D, E, F). Frequently used in programming and referred to as hex.

Hexadecimal dump mode
Mode used to print out data or commands sent from the host computer to the printer; information that is useful for debugging programs.

High quality (HQ) mode
One of the print quality modes available on this printer. Use this mode for most printing needs. Print speed is 173 cps at 10 cpi; print resolution is 360x360 dpi.

High speed (HS) mode
One of the print quality modes available on this printer. Use this mode for printing draft text. This mode is faster than HQ mode; print speed is 277 cps at 10 cpi. Print resolution is 180x180 dpi.

I

Ink jet printer
A nonimpact printer that ejects ink onto paper to form characters. This printer is a special type of ink jet printer called a Bubble Jet printer.

Ink tank
The special type of ink tank housed by the BJ cartridge. The BC-10 Black BJ cartridge houses one BCI-10 Black ink tank.

Input buffer
An area of the printer's memory containing the files that have been sent to the printer.

Interface
The connection between two devices that makes it possible for them to communicate with each other. This printer features a parallel interface, which makes it compatible with IBM and similar personal computers.

Interface cable
The cable used to create the interface between a printer and a computer.

Interface port
The printer comes with one Centronics, 8-bit, parallel interface port, located on the back of the printer. You attach the interface cable that connects your computer and printer to this port. *See also* Parallel interface.

Internal fonts
Fonts resident in the printer when it is shipped. *See also* Resident font.

Italic
A font style distinguished by slanted characters (the upright strokes of the characters are at an angle to the vertical axis).

L

Landscape orientation
Refers to printing across the length of the page (as opposed to portrait orientation printing across the width of the page). The term landscape is derived from pictures of the landscape, which are usually horizontal in format.

Line feed
A printer function that advances the paper one line.

Line weight
The thickness of lines used in a graphic image or the stroke weight of text

characters.

lpi
Lines per inch. The measurement used in describing the number of lines that will print within one vertical inch. Most printing is done in 6 or 8 lpi.

M

Manual feed
A method of feeding paper to the printer one sheet at a time.

Multilingual
Refers to Code Page 850 that contains the special character sets used for foreign languages.

N

Noise level
See dB(A).

Nonimpact printer
Printers, such as Bubble Jet, ink jet, thermal, and laser models, that form characters by means other than striking the character against the paper. These printers run more quietly than dot matrix and formed-character printers. Your printer is a nonimpact printer.

Nozzle pattern
A test pattern printed by the printer to check that the print head is firing correctly.

O

Off-line
The printer's communication status in which you cannot transfer data from your computer to the printer. In this mode, you control the printer from the operator panel.

On-line
The printer's communication status in which it is being controlled by your computer and is ready to receive data.

Operator panel
On this printer, the panel containing the buttons used to control the printer and the various indicator lights. You use this panel to turn the power on or off, set the printer on-line or off-line, select a print mode, eject a sheet of paper, clean the print head, and print the test patterns.

Overscore
A line printed over a character. *See also* Underscore.

Overstrike
On dot matrix and ink jet printers, refers to placing a character twice in the same place on a page.

P

Page orientation
Refers to the direction of print on the page. Printing across the width of a page is called portrait orientation. Printing across the length of a page is called landscape orientation.

Parallel interface
An interface that transmits multiple bits simultaneously (usually in one-byte segments). Your printer has a built-in, Centronics-type parallel interface. *See also* Interface port.

Pitch
Refers to the number of characters per inch that can be composed using a fixed space font.

Platen
Printer component that holds the paper in position during ink transfer.

Point size
Character height is defined in points; one point is 1/72 inch. For instance, this text is printed using a 10-point font.

Portrait orientation
Refers to printing across the width of the page (letter style). This is the opposite of landscape orientation, which is printing across the length of the page.

Prestige
One of the fonts resident in this printer. This font, which you can access in either BJ mode or Epson LQ mode, can be printed in fixed pitch or using proportional spacing.

Print head
The printing mechanism that contains the print head nozzles (128) and ejects the ink during printing.

Print head capping
An automatic protection function that prevents the print head and BJ cartridges from drying out or becoming clogged with dust.

Print mode
A printer state during the printing operation. You can set the following modes on or off for a combination of print modes: High Quality, Economy, and Fine.

Printer command
Also called ESCape sequences. *See* ESCape sequences.

Printer control mode
This printer has three control modes: Canon extended mode, BJ mode, and Epson LQ mode. The printer control mode determines the features the printer supports.

Printer driver
Software that sends printing instructions to a printer. The printer driver keeps track of the attributes of a printer and the codes the program must send to access those attributes.

Printing area
The area of a sheet of paper on which a printer can reproduce text or graphics (the printing area is smaller than the paper). On this printer, the printing area varies depending on the type of paper being used.

Proportionally spaced font (PS font)
A font in which each character is given an amount of space proportional to its size—less for an *i* and more for a *w*.

Proportional spacing
The spacing of characters according to the width of each character. This variable spacing between each character closes up awkward space and makes text easier to read.

PS
Stands for proportionally spaced.

R

RAM
Random Access Memory. Printer memory that is used for temporary storage of information you want to print and downloaded fonts.

Reset
A way to clear printer errors; turn the printer's power off and then back on again.

Resident font
A font that is built into the printer, as opposed to one that must be downloaded from your computer. Resident fonts are stored in ROM. The fonts available depend on the printer control mode you are using: BJ mode or Epson LQ mode. *See also* Internal fonts.

Resolution
The density of dots for any given output device. Expressed in terms of dots per inch (dpi). Low resolution causes font characters and graphics to have a jagged appearance. Higher resolution means smoother curves and angles as well as a better match to traditional typeface designs. Resolution values are represented by horizontal data and vertical data, for example, 360 x 360 dpi.

Ripple pattern
One of the test patterns produced by this printer. In this test, all characters are printed in the default font and pitch (as determined by the printer control mode that has been selected) in a repeating pattern.

ROM
Read Only Memory. You cannot modify this printer memory. When the printer is turned off, ROM memory remains intact. In this printer, the default settings and the resident fonts are stored in ROM.

Roman
A font based on the characters used by the Romans, with serifs and long strokes. By extension, an upright (nonitalic) font.

S

Sans Serif font
A font in which the characters do not have serifs as embellishments. The Sans Serif font is available in Epson LQ mode only. It can be printed either in fixed pitch or proportionally spaced.

Serif
Short lines crossing and embellishing the ends of a letter's main strokes.

Serif font
A font in which the letters have serifs as embellishments. Courier and Prestige are serif fonts.

Smoothing mode
A printer mode in which the printer enhances the horizontal resolution from 360 dpi to 720 dpi. This function is active when FUNCTION 6 is ON.

Subscript
One or more characters printed one-half line below the normal printing line. *See also* Superscript.

Superscript
One or more characters printed one-half line above the normal printing line. *See also* Subscript.

T

Text scale mode
The mode that reduces the line spacing by a factor of 14/15 (from 62 lines per page to 66 lines per page if line spacing is set to 6 lines per inch). This provides compatibility with software that assumes 66 lines will fit on each page.

TrueType font
The scalable font technology built into Microsoft Windows 3.1. It offers you the same font images both on computer displays and printer outputs.

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FCC Regulations

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ❏ Reorient or relocate the receiving antenna.
- ❏ Increase the separation between the equipment and receiver.
- ❏ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- ❏ Consult the dealer or an experienced radio/TV technician for help.

Do not make any changes or modifications to the equipment unless otherwise specified in the manual. If such changes or modifications should be made, you could be required to stop operation of the equipment.

Use of shielded cable is required to comply with Class B limits in Subpart B of Part 15 of FCC Rules.

Canadian Radio Interference Regulations

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled “Digital Apparatus,” ICES-003 of the Industry and Science Canada.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur: “Appareils Numériques,” NMB-003 édictée par l’Industrie et Sciences Canada.